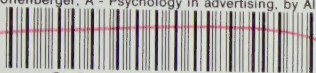


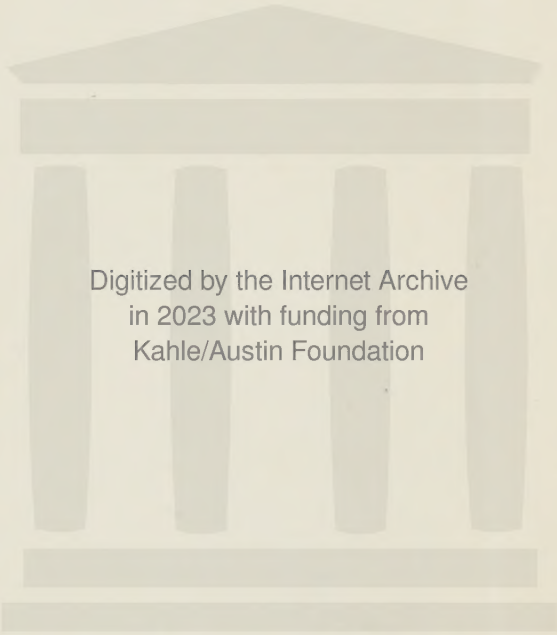
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WITHDRAWN

PSYCHOLOGY IN ADVERTISING

BY

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INTRODUCTION

ONE of the conspicuous achievements of our generation has been the steady advance in the application of psychological knowledge and technique to practical problems. The "personal factor" was once emphasized chiefly in religion and education, and later in penology and management. More recent, and in some ways more impressive, is the recognition of the mind's machinery by those agencies of distribution—the advertiser, the salesman, and the publicist.

This impressiveness has been due in large part to the feasibility of measurement and controlled experiment in these fields. It has been furthered by the rapid accumulation of new data and concrete applications such as are always possible when industry rather than philanthropy undertakes to foster research. It has also been facilitated by the fact that this field has attracted the activity of many young and vigorous psychologists. These have been trained in the newest methods of precision and control; they have been unhampered by the old philosophical preoccupations; and they have not acquired the fear, which haunted many of their predecessors, that scholarship would be contaminated if it should leave the cloister to breathe the hotter air of shop and office.

The present book, by one of the most energetic of these applied psychologists, is in many ways a monument to the advancing spirit of science in business. Its author has been for many years actively engaged in teaching, research, and consultation in the special field of which the book treats. Many of his own investigations, heretofore known only to the readers of technical journals, are here assembled. With these are to be found, in systematic arrangement, and with their interpretation lucidly presented, many significant results from the studies of other workers. Such experimental findings, vividly illustrated, and related, as they here are,

to the general principles of human nature and to the concrete problems of advertising, constitute a lively picture of the progress of the psychology of advertising and its contemporary status.

Earlier writers who attempted to present the psychological principles involved in advertising and selling were impelled to delete such words as "science," "mental," and "psychology" from their vocabularies. The old-fashioned business man shied from these words as he did from suggested investments in flying machines, wireless communication, moving pictures, and horseless carriages.

Today's stock exchange list shows that there are more things in science than our progenitors even dreamed of. And today the scientific psychologist need not blush at the name of his specialty. Instead, his outstanding solicitude is the task of educating the business man to discriminate between the pirates who fly the word "psychology" at their mast-head and the genuine expert who undertakes to dig out sober fact from the mines of data and communicate it in the form of law and verifiable conclusion.

The present volume, presenting, with accuracy and inviting form, the authentic knowledge and the current methods of the psychology of advertising, fills several long-felt needs. It assembles for the student, the teacher, and the practicing advertiser many scattered contributions. It sets these in a frame of general mental laws and tendencies, thus bringing up to date and aptly illustrating the established principles of one important field of the astonishingly complex art of publicity.

Finally, its detailed exposition of the technique of investigation and analysis should give new impetus and suggest new problems to those whose privilege it will be to push still further the adaptation of our knowledge of our nature to the satisfaction of our needs.

H. L. HOLLINGWORTH

Barnard College, Columbia University

PREFACE

THIS book is intended to represent both the body and the spirit of the contributions that psychology has made to advertising during the last 15 years. That the contributions are appreciated by many advertising men is indicated by the number of advertising conferences in which psychologists engage, by the number of trained psychologists who are being drawn into advertising work, and by the fact that most of the experimental studies reported in this book were made directly or indirectly at the call of the advertising specialist.

It should serve equally well as a text-book for classes in advertising and for the advertiser who is in the thick of the fray. An earnest attempt has been made to incorporate what will be useful for both groups. Controversial questions have been avoided wherever possible; but where this could not be done, facts rather than theories have been emphasized. Definitions and terms have been used which are sufficiently general to cover differing points of view and to give the facts their maximum of practical utility. To the trained psychologist certain inconsistencies will undoubtedly appear when the book is surveyed as a whole—it is not offered as a systematic treatise on psychology.

The psychological methods of investigating advertising problems have been presented in sufficient detail so that they may be put to use by advertising men. The technique has been illustrated with actual case studies wherever feasible. A special appendix gathers together all such methods with the references to the pages where they are described.

For the benefit of the student especially, a fairly complete bibliography of psychological studies related to advertising problems is presented in an appendix, in addition to numerous references appearing in footnotes in the body of the book. It is hoped that such references will encourage the

student to go to these original sources, and stimulate him to research in this rapidly developing field.

I have borrowed freely from the books, monographs, and articles of other investigators. Although such sources have been acknowledged in footnotes wherever possible, I take this further means of expressing my gratitude. Thanks are due to the *Journal of Applied Psychology* for permission to reproduce a number of my articles published there. I wish to express my appreciation to my colleague, Dr. H. K. Nixon, who has read all the proof and prepared the bibliography that appears in the Appendix. I owe much to Professor H. L. Hollingworth, who first interested me in advertising problems. Both his writings and his counsel have made a substantial impression upon the character of this book.

A. T. POFFENBERGER

Columbia University, April 15, 1925

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PSYCHOLOGY IN ADVERTISING

I

THE PSYCHOLOGICAL ATTITUDE TOWARD ADVERTISING

Advertising requires a knowledge of human nature. The laws of mental life. Individual and group differences. Methods of measuring human reactions. Psychological attitude toward advertising illustrated. Attention value of the return coupon. The ease of using a return coupon. Return coupons are too small for signatures.

EVERY problem may be attacked from more than one point of view. The human body as a machine may be seen through the eyes of the anatomist. To him it is a structure made up of bones, muscles, tendons, blood-vessels, nerves, and so forth. Or, it may be seen through the eyes of the physiologist to whom it is a series of complex organs in action. Again, it may be seen through the eyes of the psychologist whose interest is in the manner in which the machine as a whole is put into action and controlled. Or, it may be seen through the eyes of the pathologist whose interest centers in the ills and breakdowns of the machine. No one of these points of view can be said to be right and the others wrong; one can scarcely say that any one point of view is more important than the others. Each contributes its share to a complete understanding of the problem. The same may be said of the problem of the advertisement; for it presents a picture which varies according to whether it is seen by the manufacturer who wants a rapid turnover of his goods, by the advertising specialist who is its creator, by the publisher for whom it is a more or less transient tenant of his space, and by the consumer who is the ultimate target of all advertising. To each the advertisement presents a different problem, yet the success of the single advertisement or of the advertising campaign depends upon the proper coordination

of all these points of view. Is one of these points of view more important than another? That is a difficult question. I venture to suggest that if any one point of view shall take precedence over any other, it should be the point of view of the consumer. As one advertising man has put it, the advertisement should be written *from the consumer toward the article rather than the reverse*. This point of view is well illustrated in the story of the man who had lost his horse and after a search found him. Asked how he knew where to look for the horse, he replied, "I just said to myself, 'If I was a horse, where would I go?' And I went there and there he was."

How may an advertisement be written from the consumer toward the article to be advertised? Only by way of a thorough understanding of the consumer, his nature, his motives, his loves and his hates, his appetites and desires, what he remembers and what he forgets. No fact of human nature is so remote from the problem of advertising that it may be safely ignored by the advertiser today. These are not radical statements. On the contrary, they are likely to be heartily ratified by any advertising specialist.

ADVERTISING REQUIRES A KNOWLEDGE OF HUMAN NATURE

How shall the student of advertising get his knowledge of human nature? Can he get it by mingling with people, by keeping his eyes and ears open as he rides in trains, walks along the street, or sits in the restaurant, like the novelist who is looking for human nature stuff for a good story? Much valuable material may come that way, and undoubtedly does. But he should not fail to make acquaintance with the science of psychology, whose problem is the understanding of human nature. Upon this statement advertising men will not so unanimously agree. The point of view of many of them is well illustrated by the quotation at the top of the opposite page, taken from an advertisement prepared by a well-known agency.

Advertising is not a physical commodity. It is a printed envoy charged with furthering human transactions. As such, no laboratory can capture or contain it.

To the psychologist, humanity reduces itself to a series of cases in a chart.

The merchant-minded manufacturer sees human beings as plain folks. Bundles of wants, needs, likes, dislikes, love, hate, fear, courage, discontent, aspiration—and through it all an optimism and faith that nothing can quench. He may have a good bit of money invested in his factory, store, finished and unfinished goods. But at bottom, his real capital is the confidence of the American public in himself, and their liking for his merchandise.

The purpose of advertising is to multiply this confidence and liking. Its obligation is to get for its client more than his proportionate share of sales. So the good advertising man has to live close to the people—without pose, without affectation, without anything but a sympathetic, open mind. The folks next door or across the hall are flesh and blood to him, and not part of a graph or chart. Knowing people as alive and real, he is much surer of his commercial imagination, when he comes to apply it, than if he relied on a laboratory test.

The reason for this attitude of skepticism on the part of many practical business men is not difficult to explain. There is still a strong tendency to look upon psychology as a detached kind of study engrossed with speculation about mind and matter, souls and spirits. But a striking change has taken place within the science of psychology in common with like changes in all the other sciences. Each has been forced to withdraw from its detachment and exclusion and set up its laboratory in the midst of the problems of practical life, and to contribute to the solution of these problems wherever possible.

The war did much to speed up the rate at which contact between science and practical life was being established. The maximum efficiency of production and distribution was an absolute necessity. The psychologist, like his associates in other sciences, contributed his share. The success of these ventures attracted the attention of not a few hard-headed business men and psychology found itself overnight, so to speak, in great demand. More service and different ser-

vice was demanded of psychology than could be supplied on such short notice. But supply always tends to catch up with demand, and there appeared the pseudo-psychologist who bore the earmarks of the profession but lacked sound scientific training. Consequently the disappointments that resulted from the character of the service that was rendered were many and serious. We are now in the midst of a reaction against this superficial application of psychology and a steady growth can be confidently expected.

The relation between the problem of "applied psychology" and that of "advertising" is particularly close. The aim of applied psychology is the prediction and control of human behavior in every sphere of activity; the aim of advertising is the prediction and control of human behavior in a specialized field of activity; namely, the purchase of goods. Even this distinction in the range of the two is diminished through the use of advertising to influence public opinion in politics, general welfare, health work, and so forth. It is not too much to say that if all the conditions or causes of human behavior were known and were under control, advertising could be made 100% effective. Of course, we do not know all the conditions or causes of behavior and much less do we have them under our control. But the marvelous power of advertising is due largely to the use of the little knowledge that we have of these matters. In fact, the influence of advertising has already become so great that some one has made the suggestion that a book ought to be written on, "How to Protect Oneself against the Advertisement."

The definite contributions that psychology can make to advertising are of three sorts:

I. THE LAWS OF MENTAL LIFE

There is a large collection of so-called laws or facts about human nature, which have accumulated over years of laboratory work. They tell in a general way how the human being behaves, about what kinds of situations are

most likely to attract his attention, what kinds of experiences are most likely to stick in his mind, what kinds of appeals he is most likely to respond to. For example, if we follow the Freudian psychology, we will find in the sex motive the most powerful driving force in human nature. Appeal to it and a powerful response is guaranteed, or if not, it is inhibited at great cost to the individual. Follow a contrasting school, and we find the so-called self-assertion motive the most powerful—that tendency to bring oneself to a position of superiority over others. Appeal to it and you have released the mainspring of life whose force is under your control. Take a more conservative view, the proper one for the student of advertising, and you find in the sex motive and the self-assertion motive two springs of behavior which may be effectively appealed to by advertising.

2. INDIVIDUAL AND GROUP DIFFERENCES

The second contribution is one which sets a limit to the application of the general laws just referred to. It consists in pointing out the exceptions to these general laws, and in emphasizing the respects in which variations from them are to be expected.¹ The outstanding variations are the differences among individuals, the differences between the sexes, the differences among various age groups, the differences among social classes, the differences according to occupation, and so forth. It is, indeed, very important to know that certain kinds of behavior are common to all human beings. It is equally important to know that certain kinds of behavior are common only to certain classes, groups, and levels of society.² Consider, for example, the intelligence differences within the population of the United States, and the classification of people according to their intelligence. The range of intelligence is very great and stretches all the way from the genius to the feeble-minded. To be sure, the great bulk of the population falls neither into the genius nor the feeble-minded class, but occupies a position which might be called

a "happy medium." Still the range of intelligence within the so-called normal is considerable when it is a question of the understanding of the printed message. The proportion of the population that cannot read or can scarcely read is surprisingly great, and yet these people are at least potential users of soap, household conveniences, and articles of luxury and enjoyment. Contrast this group with the "educated" that can be appealed to by means of logic and reasoning, and the great need for understanding intelligence differences will be apparent. There are other differences that are equally great and equally worthy of the consideration of the advertiser.

3. METHODS OF MEASURING HUMAN REACTIONS

This leads us to the third contribution, and, I believe, the most important; namely, the contribution of methods. The very fact of individual, group, and class differences, the absence of known laws for every sort of behavior gives rise to the necessity for methods of studying behavior. The most important of these are the measuring methods, which are needed because the objects to be measured in psychology are unique in certain respects. There are methods for measuring attention, memory, suggestion, feeling, and many other types of behavior, all of which play an important part in determining the effectiveness of advertising. Such objects of measurement strike the observer as much less tangible than volume, length, weight, and so forth. Actually, the measuring methods are very much the same, but represent a cruder form of measurement than one is accustomed to make in the case of physical quantities. For example, the measurement very often consists in finding whether one thing is more or less than another in some respect. And it does not matter what the respect may be; it is nearly always possible to make a measurement in terms of more or less. Suppose that one were about to purchase some flooring for his new home. He goes to the mill in doubt as to whether to

buy oak or pine. He finds that oak flooring is *more* durable, is *more* susceptible to polish, is *less* likely to splinter, so he chooses oak. Now, all these facts, of durability, polish, and splintering, can be physically measured and the measurements are physical measurements.

Again, let us suppose that one is about to purchase a necktie instead of flooring. He may base his purchase on such matters as *more* durability, and the like, but the chances are that he will not do so. He will probably examine a number of neckties and finally decide that he *likes* one *more* than the others. He is measuring objects in terms of *more* or *less* just as before, but now his measurements are in terms of feelings, likes, and dislikes, rather than in terms of pounds, years, or degrees of polish. These two types of measurement are, therefore, fundamentally the same, yet many a business man will not be persuaded that the second form of measurement is measurement at all. Once recognized as a legitimate method and aided by the refinements that have been developed in the statistical laboratories, it has great possibilities in the field of advertising. An example or two will make this clear. In a recent number of *Printer's Ink* there was printed an interesting description of how a certain manufacturer made his business of creating lamps a great success. He had always had great difficulty in making styles of lamps that the public would buy. His designers frequently went wrong in their estimates of public taste. This manufacturer hit upon the idea of having a number of designs made up and inviting people into his showrooms to give their opinions of them. Their measurements were in terms of which lamp was the most pleasing, or which one was liked best. The consensus of opinion of a sample group of this sort furnished a satisfactory measure of what the people wanted in lamp design. Poor selling styles could be eliminated and best sellers discovered by such a simple preliminary measurement of likes and dislikes.

Another organization conducted recently what it considered to be an epoch-making investigation. It consisted in



Your Eagles are MY Mosquitoes

NOTHING of yours ever seems half so important to me as it does to you. Millions of advertising dollars are wasted every year because what I want to hear has nothing to do with what you want to say. People will read only what interests them. And there are only five things that interest everybody! It is cheaper to change your advertisement than to change human nature.

K. M. Goode

Why not ask Mr. Goode to show you his Big Black Book?

Figure 1: Dramatizing the distinction between advertiser and consumer

finding out what people liked in the way of hosiery. Did they prefer silk, wool, cotton, or silk and wool? Did they prefer form-fitting or non form-fitting hosiery? Did they prefer heavy, medium, or light weight? What price did they prefer to pay for stockings, and so forth? These likes and dislikes were then used as the basis of a marketing campaign. If the likes and dislikes were measured for vital characteristics of hosiery and if the sampling of the hosiery-buying population was adequate, the campaign could be confidently based on the findings. Such investigations as this constitute the modern market analysis, and form the basis of every well-ordered advertising project.

Let us go one step farther and inquire whether a potential buyer of lamps, who can say what kind of lamp he would like to buy if he were going to buy one, could not look at several advertisements of lamps and say which of these advertisements was the most convincing and would be most likely to lead him to purchase a given lamp if he were in the market for one. The two procedures do not differ in any essential respect, one from the other. If this method of measurement in terms of more and less will enable one to pick out the successful styles beforehand, may it not enable the advertiser also to pick out the successful advertisements before they have been spread broadcast? Provided the measurement is made upon an adequate sampling of the buying public, its results should be even more reliable than the opinion of the advertising expert. He can at best reflect the *possible* reaction of the public, while in the other case the reaction of a sampling of the public is measured directly. The whole conception which we have been discussing is aptly pictured in Figure 1, on the opposite page.

PSYCHOLOGICAL ATTITUDE TOWARD ADVERTISING ILLUSTRATED

The psychological attitude toward advertising problems may be well illustrated by reporting a study of the return

coupon method of measuring the effectiveness of advertising.¹

In investigating current methods of measuring advertising efficiency the writer was surprised to discover the reliance which is at present placed upon the return coupon as a measure of the value not only of a particular piece of advertising copy, but of an advertising medium which carries the copy. This reliance seems not to be limited to cases of strictly mail-order selling, but is extended to cases where the product may be purchased directly in any locality, and where the return coupon concerns merely samples or descriptive literature. Publications have been known to lose valuable clients because the number of "replies" through that medium does not come up to expectations. There must be many factors determining whether readers of a particular medium will or will not indicate their interest in advertised articles by filling in and mailing a return coupon. The price of a magazine as well as the nature of its contents, determining the character of its readers; its editorial policy such as that of advocating buying from local dealers; the distribution of readers in city and country; all may give clues to the possible attitude of the reader toward the return coupon. In addition to these, there are other more strictly psychological factors involved. These, like most others which determine the human reaction to advertising, can be discovered by painstaking research. This report deals with conditions that are not peculiar to any one medium, but rather with the effectiveness of the return coupon in general. Two of these will be discussed; namely, (1) the dependence of effectiveness upon attention value, and (2) the dependence of effectiveness upon ease of using the coupon.

I. ATTENTION VALUE OF THE RETURN COUPON

A casual survey of any magazine will provide abundant evidence of the lack of attention-getting power in the return

¹This study was originally published in the *Journal of Applied Psychology*, 1923, VII, pp. 202 ff.

coupon. Its size is usually reduced to a minimum; its position is at the extreme bottom of the advertisement or in a lower corner, with none of the customary mechanical devices employed to carry the eye to it; its type is small and plain. It would seem that a reader might well have his interest aroused in the article advertised and yet fail to be stirred to action by the appeal of the coupon, or worse still, might fail to notice the coupon at all.

Figure 2 shows a relatively conspicuous presentation of the return coupon; and Figure 3 shows a coupon in the most prominent position in the advertisement. It is made still more conspicuous by the use of an effective attention device.

To test the attention value of return coupons in comparison with the advertisements that carry them, a simple experiment was arranged. Six full-page advertisements (black and white only) were taken from a current issue of the *Saturday Evening Post*. Three of these contained return coupons of the usual sort, while the other three had none. This set of six advertisements was presented to 210 persons, each of whom was asked to examine them as much as he liked, but more carefully than he would in looking over a magazine. Immediately after this examination was finished, the advertisements were withdrawn and each person was asked to write the names of the articles advertised. The test was made extremely easy by using only six advertisements and testing for knowledge of them immediately after, so that as large a proportion of the people tested as possible would remember all of them. That most of the persons did remember all the advertisements may be seen in column 4 of the table on page 15, where 189 of the total of 210 remembered the advertisement making the lowest score and 202 of the total of 210 remembered the one making the highest score. It will be noticed that the six advertisements were nearly equally well remembered.

As soon as the names of the articles advertised had been written, these sheets were collected, and others containing a



The Highest Honors Obtainable

ANYTHING can usually pass muster in the shadows, but it demands unusual merit to stand—with honors—in the limelight of public opinion.

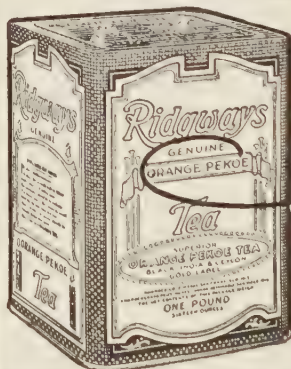
Since 1836, for example, Ridgways Tea has warranted the confidence of connoisseurs wherever good tea is known. Unvarying—its piquant, mellow flavor has always remained the same, ministering its refreshing influence to countless thousands of lovers of a really superior tea.

Indeed, whatever tea you may prefer—and there are six famous Ridgway blends—you can always choose with the assurance of securing true quality. These famous beverages bring to you the skill born out of long experience—minute care in the blending and packing of choice teas.

That is the reason why Ridgways Tea has captured the highest honors wherever it has been exhibited. Awarded—

Gold Medal, San Francisco, 1915. Grand Prize, San Diego, 1916

Send coupon for a generous sample of
"The Finest Tea the World Produces"



Ridgways
Genuine
Orange PEKOE Tea

Ridgways, Inc., 60 Warren St., New York
Send me free of charge a sample of Ridgways Genuine Orange Pekoe Tea, and your booklet "A Few Facts About Tea."

Name _____

Address _____

Figure 2: A relatively conspicuous presentation of the return coupon
(See page 13)

NUMBER OF PERSONS WHO	RECALLED ADVERTISEMENTS			RECALLED COUPONS		
ADVERTISEMENTS WITH COUPONS						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Articles Advertised</i>	<i>Men</i>	<i>Women</i>	<i>Both</i>	<i>Men</i>	<i>Women</i>	<i>Both</i>
Fleischman's Yeast	81	109	190	40	68	108
Booth's Sardines	82	110	192	18	31	49
Underwood Bookkeep- ing Machine	83	106	189	22	33	55
Total	246	352	571	80	132	212
ADVERTISEMENTS WITHOUT COUPONS						
Styleplus Clothes	88	111	199	14*	16*	30*
Squibb's Products	86	105	191	25*	30*	55*
Apollo Chocolates	91	111	202	12*	19*	31*
Total	265	327	592	51*	65*	116*

printed list of these articles were given to each person with instructions to check those articles whose advertisements had return coupons. The results of this test are given in the table. The first column gives the name of the article advertised; columns 2, 3, and 4 give the number of persons who recalled each advertisement. The scores for men and women are reported separately in columns 2 and 3 and are then combined in column 4. Columns 5, 6, and 7 give the data for the recall of the coupons, 5 and 6 giving the records separately for men and women and 7 combining these into a total score. *The first three advertisements in the table contained return coupons while the last three contained no coupons.* The figures in the lower right-hand corner—those followed by an asterisk—represent the cases where advertisements were said to contain coupons when they really did not. Disregarding the records for men and women separately, we find that 30, 55, and 31 persons reported falsely concerning the presence of coupons. These figures indicate the degree to which guessing occurred, and furnish the means for calculating approximately how much guessing occurred in the case of advertisements which really did have coupons. This may be done roughly as follows: It will be observed that the last three advertisements were recalled by 592 persons,

Extra Dollars for Spare Hours

The Curtis Publishing Company
812 Independence Square
Philadelphia, Pennsylvania

Extra men. Extra dollars for spare hours is what I'm looking for. If you have a plan which will enable me to earn them easily, send me the details—without obligating me in any way.

Name _____

Street _____

City _____ State _____

Why it Will Pay You To Mail This Coupon

1. It will tell you how hundreds of keen business men and refined women are making many an easy extra dollar as our local subscription representatives.
2. It will tell you just what to do and what to say to make, as do so many of these workers, \$5.00 to \$50.00 a week extra.
3. It will bring you, absolutely FREE, full equipment, supplies and instructions; even including a most helpful series of booklets on spare-time salesmanship.
4. It will show you why you do not need previous experience to succeed as our representative for *The Saturday Evening Post*, *The Ladies' Home Journal* and *The Country Gentleman*. So mail the coupon—now while you're thinking about it.

The Curtis Publishing Company
812 Independence Square, Philadelphia, Pa.

Figure 3: This return coupon gets the attention that it deserves.
(See page 13)

and of these, 116—or about 20%—said they contained coupons when they did not. The first three advertisements were recalled by 571 persons, and of these, 212—or about 40%—said they contained coupons. But some of these persons must have been guessing and we may assume that about the same proportion guessed here as in the case of the last three advertisements; namely, 20%. Making this correction, it would appear that only about 20% of the people who recalled the advertisements recalled whether they had return coupons. As our correction for guessing is conservative, this 20% is more likely to be too high than too low.

Since the ultimate measure of the value of an advertisement is the number of purchasers it creates, the return coupon as an indicator of effectiveness should register more than 20% of the attention and memory value of the whole advertisement. By giving it some of the attention power devoted to the rest of the advertisement, it might be made to register more nearly the value of the advertisement or of the medium in which it is placed. Certainly if much reliance is to be placed upon the coupon to indicate these values some effort should be made to bring it to the attention of the reader.

The figures in the table showing the records for men and women separately, both in the recall of advertisements and in the recall of coupons, show only one difference worth noting. In every case the scores for women are higher than for men, a difference that is usually noted in tests of this sort. But the proportion of coupons recalled to advertisements recalled and the proportion of guesses does not differ materially for the two sexes. Likewise, no particular significance is to be attached to the difference in scores of the different advertisements. They were too few in number to enable conclusions to be drawn about the value of types of coupons, and so forth. The high coupon score for the Fleischman advertisement is probably due to the large element of guessing in that case, but this cannot be determined definitely from our records. The influence of difference in size, position, and

layout of coupons is a matter which would be well worth investigating.

2. THE EASE OF USING A RETURN COUPON

The second condition upon which the effectiveness of the return coupon depends is the ease with which it may be used. There are numerous factors that might well be considered here. For example, the paper on which the advertisement is printed may be too smooth for legible pencil writing and too porous to permit the use of ink without its blotting. Again, if not perforated, the coupon may tear in being removed from the advertisement. These are difficulties probably inherent in the medium and which cannot be remedied. But there is another, which can be more easily handled. This has to do with the amount of space allowed for writing the name and address on the coupon. A glance at a collection of coupons will show that many of them are entirely too short to receive an ordinary signature. Now, it may seem at first a very small matter to expect the reader to reduce his handwriting sufficiently to meet the coupon conditions. Still, it must be remembered that in many cases, if not in the majority of them, the decision to react or not to react by filling in and mailing a coupon hangs on a very slender thread. The resistance which any slight obstacle offers may be just enough to sway the reaction in the negative direction.

A series of measurements was made of a random collection of 110 signatures, and a series of 435 return coupons, some of them from full-page and some from half-page advertisements in large-size periodicals, such as *The Ladies Home Journal* and the *Saturday Evening Post*; others were taken from full-page and half-page advertisements in standard-size magazines, such as *Scribners* and the *Century Magazine*. The spaces allowed for both the signature and the address were measured, but only the former will be discussed. The chart in Figure 4, on page 20, will show graphically the

degree to which the spaces fall short of accommodating the signatures. The horizontal scale for every curve represents the length of the signatures and the signature spaces in centimeters, and the vertical scale represents the number of cases of a given length. The topmost curve shows the distribution of *signature* lengths, ranging from about 2.5 cm., to about 11.5 cm., with the median length at 6.9 cm. The second curve shows the distribution of signature *spaces* in coupons from full-page advertisements in large-size magazines; the third, in coupons from half-page advertisements in large-size magazines; the fourth, in coupons from full-page advertisements in standard-size magazines; and the fifth, in coupons from half-page advertisements in standard-size magazines. The solid line representing the median length of the signature is carried down through the other curves, whose own medians are represented by dotted lines. Although there are a few coupons with enough space to accommodate the largest names, the median of the names is considerably larger than the medians of any of the spaces. The relationship may also be expressed in terms of the percentage of the signature *spaces* that equal or exceed in length the median of the signatures. These figures are given below.

Particulars	Number of Cases	Median Length in Cm.	Percentage Reaching or Exceeding Median Name
Signatures	109	6.9	20
Full-page ad., large size	133	5.9	20
Half-page ad., large size	55	4.9	20
Full-page ad., standard size	116	6.0	20
Half-page ad., standard size	22	5.3	0*

*Approximate.

If the distribution of the spaces were equal to that of the signatures, there should be 50% of the cases of the former exceeding the median of the latter. Thus in three of the cases, 30% of the names are too large for the spaces, and in

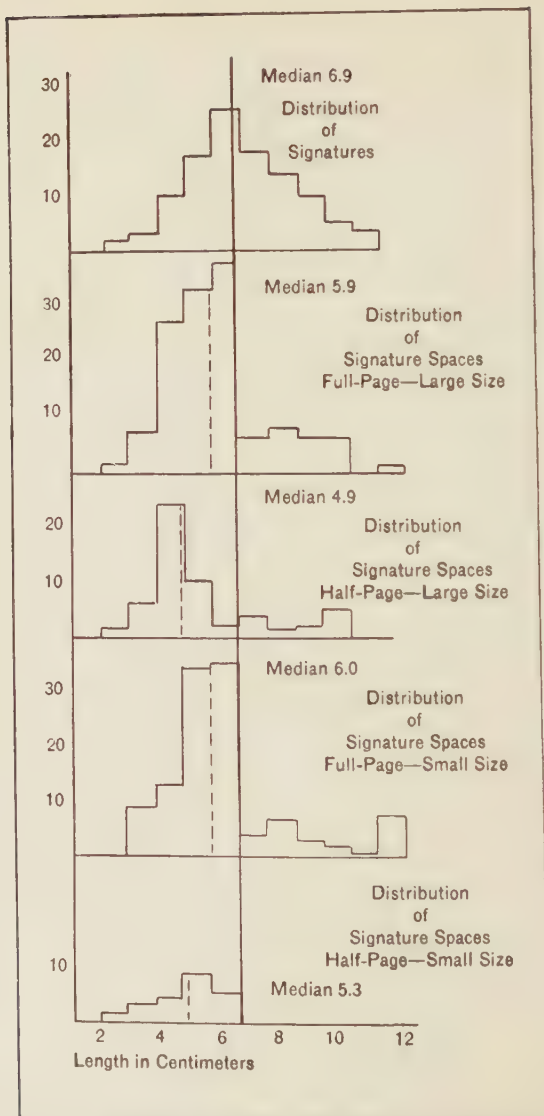


Figure 4: Relation between coupon space available for signatures and the actual length of signatures (See page 18)

WALLACE.
 332 E. Washburn Ave., Chicago.
 Please send me FREE and POSTPAID for a week's free trial the original Wallace Enducing Remedy.

Name _____

Address _____

$\frac{1}{2}$ -page advertisement

MAIL COUPON AND GET THE INFORMATION

The Landerbrook Mfg. Co.
 1207 E. 53rd St.
 Cleveland, O.

I want a copy of "The Washing Machine That Does 80% More"

Name _____

Street _____

City _____ State _____

$\frac{1}{2}$ -page advertisement

HERE'S A DOLL FOR YOU
 Send the Coupon to:
 A. P. W. Paper Co., Albany, N. Y.

For ten cents and stamps from any one of the rolls listed we will send, without a liability to pay, and, furthermore, a check, either the A. P. W. doll character. (Do not receive unless high (no cash ready to be cut out and mailed).

C2 _____

$\frac{1}{2}$ -page advertisement

Wheary-Burge Trunk Co.,
 Racine, Wis.

Please send me your book:
 "Wardrobe Trunk Packing Simplified."

Name _____

Street _____

City _____

$\frac{1}{2}$ -page advertisement

COLGATE & CO., Dept. H.
 199 Fulton Street, New York City

I am enclosing 4c in stamps. Please send me my box of F&B. My grocer is out of it.

Name _____

Address _____

Town _____ State _____

My grocer is _____

Name _____

Address _____

(Write in the margin if necessary)

$\frac{1}{2}$ -page advertisement

Fill in, tear off and mail coupon today

NESTLE LANCH CO., LTD., Dept. E.
 12 & 14 East 90th St., New York, N. Y.

Please send me the Nestle Lanch House Quilt for Permanent Waving. I understand that if after using the Quilt and the first trial materials, I am not satisfied, I may return the Quilt any time within 30 days, and receive back every cent of its cost of \$15.

☐ I enclose \$15 to check, money order, or bank draft as a deposit.

☐ I prefer to deposit the \$15 with my postmaster with the Quilt.

OK, check this off: I will send only five books of further particulars is desired.

AND here _____ for special Baby Soap Treatment Booklet.

Name _____

Street _____

City _____ State _____

$\frac{1}{2}$ -page advertisement

SPECIAL ONE MONTH'S SUPPLY

BRILLO MFG. CO., Pearl and Tillary Sts., Brooklyn, N. Y. 1120

Find enclosed use for which send one month's supply of Brillo for your special offer. (Manufacturers pays shipping charges.)

Name _____

Street _____

City and State _____

My Dealer's Name is _____

Street Address _____

$\frac{1}{2}$ -page advertisement

Daggett & Ramadell, Dept. 213,
 D & R Building, N. Y.

Please send me a Get-Acquainted tube of "D & R" according to your above offer

Name _____

Address _____

City _____ State _____

$\frac{1}{2}$ -page advertisement

TEAR OUT HERE

WOMAN'S INSTITUTE
 Dept. 38-C, Saratoga, Pa.

Please send me a copy of "Making Beautiful Cakes" and tell me about your plan by which I can learn the subject marked below.

☐ How to make smart, attractive clothes

☐ How to earn money as a dressmaker

☐ How to make attractive hats

☐ How to earn money as a milliner

☐ The art of cookery

Name _____

(Please specify whether Mrs. or Miss)

Address _____

Full-page advertisement

Aunt Jemima Mills Company, Dept. 1-F
 St. Joseph, Missouri

Enclosed find _____ cents for which please send me

☐ Sample packages of Aunt Jemima Pancake Flour

☐ Aunt Jemima Prepared Buckwheat Flour and recipe folder;

☐ Samples, recipe folder and the Aunt Jemima rag dolls.

Name _____

Street Address _____

City _____ State _____

Full-page advertisement

Centimeters

Figure 5: There is no direct relationship between size of advertisement and size of return coupon.

the fourth case, they are about all too large to go in the space provided. There appears to be an even greater discrepancy between the *height* of writing space provided and the height of space needed for the signatures, although no actual measurements have been made to support this statement

That the space allowed for coupon purposes is not limited by the size of the advertisement is clear from the fact that

the coupon in the standard-size magazines tended to be larger than that in the large-size magazines, both for the full- and half-page advertisements (medians of 6.0 and 5.3 compared with medians of 5.9 and 4.9). Figure 5 contains a series of return coupons taken from $\frac{1}{8}$ -, $\frac{1}{4}$ -, $\frac{1}{2}$ -, and full-page advertisements in a large-size magazine. The size of coupon space bears no direct relation to size of the advertisement. The centimeter scale in the figure shows the actual size of the coupons. The real reason for inadequate space is to be sought in the failure to recognize the importance of adequate space. Adults have their writing habits firmly established, so much so that writing a signature or an address is quite automatic. Interference with the smooth flow of the automatic responses, when once begun, arouses resistance and an unpleasant feeling-tone. This is illustrated in the well-known Downey tests for character traits in which the subject is asked to reduce, enlarge, or otherwise alter the character of his writing, and in which the measure is in terms of resistance encountered in complying with the instructions. Now, it is just this unpleasant feeling-tone which the advertiser tries in so many other ways to avoid, as, for example, by the use of beautiful illustrations, beautiful color combinations, graceful border treatments, appropriate type faces, and so forth. The coupon, if it is to be relied upon or used at all, should certainly not be permitted to defeat its own purpose or the purpose of the whole advertisement by allotting too little space to it.

In Figure 6 are two coupons which have been filled out by interested persons. They illustrate two of the difficulties just mentioned. In the first coupon the line for the name was only about half long enough. Fortunately the coupon was so located on the page that the name could be extended across the page. In the second coupon the writer tried to use ink which blotted, so that the name had to be rewritten in pencil and in natural size on the margin of the coupon.

This brief study of the return coupon from the point of view of the consumer points to three conclusions; namely,

COLGATE & CO., Dept. H.
199 Fulton Street, New York City
I am enclosing 4c in stamps.
Please send me my box of
FAB. My grocer is out of it.

Name *Miss Genevieve Zielinski*
Address *82 Box 39*
Town *Tamara Ill.* State *Ill.*

My grocer is
Name *Mr. Joe Kaycki*
Address *Shelton Ill.*
(Write in the margin if necessary)

**COLGATE'S
FAB**

Safe Soap-flakes for Everything Washable

Percy Boutinman is grocer

COLGATE & CO., Dept. J
199 Fulton St., New York City
I enclose 4c in stamps. Please
send me my trial box of FAB.
My grocer is out of it.

Name *J.M. Gahan*
Address *1111 1/2 Ave*
Town *Eng.* State *Ill.*

My grocer is
Name *Percy Boutinman*
Address *1111 1/2 Ave*
(Write in the margin if necessary)

Figure 6: An excellent demonstration of the shortcomings of the ordinary return coupon

that the return coupon cannot adequately measure the effectiveness of an advertisement or a medium, except in direct-mail selling, because of the complexity of the factors on which reaction to it depends; that as used at present it lacks sufficient attention-getting power to attract more than a small portion of the readers of the advertisement; and that in

the size in which it most commonly appears it is likely to create an unpleasant feeling-tone because of the inadequate space allowed for writing.

Many other devices commonly used in advertising should be subjected to this same sort of analysis and would probably disclose defects that could not be readily detected otherwise. The forces of attention, of feeling, and of motivation, which are here found to determine the success or failure of the return coupon, are constantly at work in human beings, and will aid or hinder the reaction to an advertising message according as they are intelligently or unintelligently aroused.

II

PSYCHOLOGY OF THE APPEAL¹

Advertising aimed at human wants. Nature of desires and motives. Meaning and function of appeal. Nature of reflex behavior. Reflex responses are protective. Nature of instinctive behavior. The characteristics of habits. Uniformity of habits of thought and action. Habits mean resistance to change. Behavior determined by thinking. Meaning of rationalization. Ethics of the advertising appeal.

IN the previous chapter we suggested that advertising should be written from the consumer toward the product. In this chapter we shall examine the advertising appeal when the nature and characteristics of the consumer are taken as the starting point. This tendency to take human nature into account as the primary factor represents a shift of emphasis that is not peculiar to advertising alone. The modern movement in economics has its principles of supply and demand resting solidly on human wants; the investigation of industrial problems leads back to the wants of the individual employer and employee; the search for causes of disease in the human body and mind brings the student face to face with human wants and the consequences of thwarting them. The modern attitude toward education is also one in which the facts of human nature play a dominant role. *One might even define education as the improvement of man's wants and making him better able to satisfy them.*

¹The contents of this chapter and two that follow may invite criticism from some psychologists, in that they involve disputed questions. Obviously, a book on the applications of psychology should avoid such disputes wherever possible. Motivation of behavior and the concept of instincts especially involve much that is unsettled. Instinct is a useful word—and by emphasizing the lack of sharp distinction between what is native and what is acquired it is shorn of most of its obnoxious character. In the midst of differing and rapidly changing views, it is hoped that changes in the terminology used will be all that is required to meet the demands of the psychologist. The advertiser should find no difficulty whatever in accepting the ideas as they are presented and in putting them to work.

According to Thorndike:¹ "It is a first principle of education to utilize any individual's original nature as a means to changing him for the better—to produce in him the information, habits, powers, interests, and ideals which are desirable."

In the general economic scheme it is the function of production to provide the commodities that will satisfy human wants and it is the function of advertising to show that certain products will satisfy certain wants, or satisfy them better than some other competing product. It may seem to the reader that it is the function of advertising to create new wants by a process of education in order to provide an outlet for new products. This, indeed, often appears to be the case in the so-called educational campaign, but in most instances examination will show that advertising simply presents new means of satisfying wants that already exist. No matter whether new wants are to be created or merely new means of satisfying old or native wants are to be devised, the starting point must be the natural wants of the human being. The first step, therefore, in the construction of advertising from the point of view of the consumer toward the product is to get a thorough knowledge of these wants.

NATURE OF DESIRES AND MOTIVES

The terms desire and motive are commonly used in psychological writings to indicate these wants. The natural desires may be thought of as directing the individual toward the fulfilment of some fundamental biological need, either of the individual or of the group to which he belongs. Once the need arises, the desire continues until the need is filled. When there is delay in filling a bodily need, the individual experiences a state of discomfort or dissatisfaction, and when the need is filled, satisfaction results. The need is satisfied by means of some bodily response. Such a chain of events

¹Thorndike, E. L., *Educational Psychology*, Briefer Course, 1915, Teachers College, Columbia University.

may be illustrated by a simple instance. The body needs certain substances, such as water. The desire or craving for water arises. If water is at hand, the drinking response takes place and this gives satisfaction. If water is not at hand, the craving continues with increasing discomfort, until the drinking reaction can follow. The case just cited illustrates a biological need or natural need which must be satisfied in order that the life of the individual may be preserved.

Not all of our needs are of this insistent sort. As stated in an earlier paragraph it is the function of education in part to create new wants or needs. Thus, in the individual with whom the advertiser is concerned there are wants that are natural, that are part of the native equipment of every human being, and there are wants that are acquired. Very often it is impossible to untangle the complex of desires, and to say which are natural and which are acquired, but in all cases with which we will have to deal the acquired want can be shown to be built upon some natural want. It is important to recognize the biological foundation of these wants because of the insistent character of the desire for their satisfaction. Whether the desires be natural or acquired there is associated or correlated with them tendencies to react in such a way as to satisfy the desires themselves. In some cases the reaction tendencies are very definitely predetermined, while in others the particular form that the reaction shall take depends upon the nature of the situation in which the person happens to be. For instance, the drinking reaction is uniform and relatively invariable; but the reaction following curiosity or the desire to know depends entirely upon the object of the curiosity.

There is another distinction which is worth pointing out here. Sometimes, as in the case of thirst, the desire arises in the absence of any external stimulus and is due to some condition within the organism; while in other cases the desire may be dormant until aroused by some external stimulus. A good illustration of this latter case is to be found in the desire for mastery that one person may feel in the

presence of another particular person. This desire might not manifest itself in the presence of a different type of person. One might say that such desires are in the subconscious if the statement did not imply assumptions that are unnecessary for our purpose. It is enough to know that they lie dormant or inactive until a situation or a stimulus is presented which sets them into action. Whether the desire is aroused from within or from without, it is the presence of a stimulus which leads to the reactions which satisfy the desire.

The behavior which is thus associated with natural desires is called reflex and instinctive; while that which is associated with acquired desires is called habit and thought.

MEANING AND FUNCTION OF APPEAL

The advertiser has coined a word of his own which has the same meaning as situation or stimulus as here used; namely, *appeal*. The term is often employed by him as a synonym for "selling argument." It is the big idea in the advertisement or the advertising campaign as distinct from the devices that are used to present that idea effectively in word and picture. It is the function of the appeal to awaken or arouse the desire in the mind of the individual and to put in action the behavior mechanisms which will lead to the satisfaction of the desire. Now, if the desire aroused can be satisfied only by the purchase of the advertiser's goods his aim has been accomplished.

It seems scarcely necessary to insist on the great importance to the business man of a knowledge of these facts. Here are the desires ready-made for him; here are the forms of behavior for satisfying these desires. All that the salesman or the advertiser need supply is the excitant for setting the whole series of reactions in motion.

We have now outlined in a very general way the mechanism of human behavior and reduced it to its lowest terms; namely, the situation or the appeal, the desire that the appeal

awakens, and the reaction which satisfies the desire. Our next task will be to describe the various types of responses, desires, and appeals, emphasizing the characteristics of each that it is important for the advertiser to know.

THE NATURE OF REFLEX BEHAVIOR

The simplest form of response of which the individual is capable is the reflex response. Although it is of little use as a form of behavior to which the advertiser may appeal, an examination of its characteristics will aid in the understanding of the more complicated forms of behavior. A good illustration of the reflex is the sneeze response. The common *stimulus* for this response is a foreign body in the nasal passages. The *desire* is not easy to describe, but its insistent character cannot be denied, nor can the satisfaction that results from giving vent to the sneeze response after it has been impeded for a few moments; the reflex response consists of a coordinated series of movements of the respiratory mechanism which will drive out the offending object. Next to its insistent character, the most striking thing about the reflex response is its apparently mechanical character. The sneeze always takes place in the same way; the same muscle groups play their part in just the proper order. Furthermore, the response appears to be independent of the control of the person. In most cases to inhibit it is impossible; a brief delay in the reaction is about all that one can manage. One more characteristic of the reflex may be pointed out. The response is a local response; it does not involve the human being as a whole, but only one or a few of his parts.

REFLEX RESPONSES ARE PROTECTIVE

The best known of our reflexes are protective in character, serving to guard the vulnerable parts of the body from harm, by a form of behavior that is quick, sure, and effec-

tive. In the case of such forms of reaction it is easy to see why we speak of tendencies to respond, and why we say that the desire may lie dormant. In fact, until the proper stimulus arrives there is nothing but the mechanism, sense organs, nerves, muscles, and their interconnections, and the capacity for the desire.

There is one reflex response of a rather complex sort, which bears most of the characteristics just described and for which advertising devices may serve as the stimulus. That is the tendency to look toward strange and unusual objects that come within the range of vision. As we shall see in a later chapter, *it is "that which is different" that attracts the attention*. If one happens to come within range of a fluctuating electric sign he will look toward it. He may quickly turn away again, but the reflex has occurred almost before he knows it. The unique and unusual in advertising is therefore guaranteed this much attention by the nature of the human mechanism. The value of such a form of behavior as a protective mechanism in the life of primitive man and the animals would lie in the quick discovery of that in the environment which is different and therefore has the possibility of being a menace.

THE NATURE OF INSTINCTIVE BEHAVIOR

It is not possible to make a clear-cut division between the reflex responses of the human being and the more complicated forms of behavior, commonly called instincts, that are now to be described. In fact, the illustration given in the preceding paragraph might be classed by some authorities as instinctive. They differ in the following respects: (1) They are more complex; that is, they are responses of the person as a whole, and are not the reaction of a local part of the body. (2) They are less mechanical in character. The response does not always consist of exactly the same chain of muscular movements but may vary according to the conditions in which the stimulus appears. (3) The desire, al-

though no less strong, is less insistent on an immediate satisfaction. A good illustration of this form of behavior is the so-called instinct of curiosity, because it may be compared directly with the visual reflex of "turning toward" described above. The curiosity instinct lies dormant until something in the surroundings of the individual appears to be strange or unusual. There then arises the desire to know, and the more the desire is thwarted the more insistent it becomes. Literally the whole person is curious; his whole body takes part in the exploring reactions. But the behavior takes quite a different form when the stimulus is a strange, furry-like object in one's coat pocket than when it is something strange on the distant horizon. In the former case the exploration is guided by way of the sensory mechanisms in the hand; in the latter case, by the sensory mechanism of the eye. And finally, the desire to "know about" may encounter delay and still form the drive or motivation for a protracted course of behavior. If the object on the horizon happens to be a star, and the individual stimulated happens to be an astronomer, the desire to know may be the motive for a lifetime of investigation. Desires which endure for long periods of time, as in this case, are better known as interests. But whatever the name, their origin is essentially the same.

Take an illustration more closely related to the field of business. If one's neighbor arouses in him the desire to excel, a powerful driving force is liberated, commonly called the instinct of rivalry. One out of the many forms of behavior that will satisfy the desire is the purchase of a better automobile than the neighbor's. Lack of available funds may delay the satisfaction of the desire for as much as a year, but the drive is there and will eventually be satisfied. Such a person is a good prospect, for he is already half-sold. The part that the advertisement and the salesman must play in this human drama is obvious. Their task is to present a situation the response to which will satisfy in the individual his desire to excel his neighbor.

It will be an interesting and profitable business to inquire

as to just how many of these instinctive desires there are that the advertiser can count on, just what they are like, what is their relative strength, and in connection with what particular kinds of advertising each can be most appropriately aroused. These matters will be considered in the following chapter.

THE CHARACTERISTICS OF HABITS

Very closely related to the form of behavior just described is the habit response. It is, in many cases, difficult to distinguish between the two forms because the habit is so often a modification of a natural form of response and bears many of the earmarks of it. While the instinctive desires differ from the reflex in that they are satisfied in less rigidly mechanical fashion, the habits differ from the instincts in that they represent crystallized forms of response that have been established by repetition. While the instincts form the natural equipment of the human race as a whole and can with more or less certainty be discovered and catalogued, the habits are as numerous as there are individuals and cannot possibly be completely catalogued. Instinctive desires can be counted on to be present, and instinctive forms of behavior can be predicted. Habit reactions cannot be predicted with the same degree of confidence. There is still another difference between instinct and habit; namely, that desire for their consummation and the satisfaction that results therefrom do not appear in quite the same way in the latter as in the former. Habits as drives show their force only when interfered with. For habits to run off in routine fashion seems to involve no particular satisfaction, but interference with the smooth course of habits causes at least a vague dissatisfaction.

According to Dewey ¹ habits are demands for certain kinds of activity. They form our effective desires and they furnish us with our working capacities. "They rule our thoughts,

¹Dewey, J., *Human Nature and Conduct*, 1922.

determining which shall appear and be strong and which shall pass from light into obscurity." He speaks of the "motor urgent force of habit," and says that when a habit is impeded in its every operation it continues, nevertheless, to manifest itself in "desireful thought."

In a laboratory study recently reported it was found that students are more prone to anger and ill temper on their days away from work than while at work. The restlessness and irritability of a person entering upon a vacation after a long period of routine work is probably due to a similar interference with well-established habits. To take a more homely illustration, a misplaced morning newspaper may spoil a breakfast, and render a whole day unsatisfactory, not because of the necessity of reading the news, but because of interference with a deeply rooted habit. Whether desire and satisfaction show themselves in the consummation of a habit reaction or whether desire and dissatisfaction show themselves only upon the thwarting or delaying of a habit reaction, the importance of habit as a determiner of action cannot be denied.

UNIFORMITY OF HABITS OF THOUGHT AND ACTION

An examination of advertising literature will demonstrate that the potency of instinctive desires has come to be recognized. I believe that habits have not received the attention that they deserve. Although it is true, as stated in a preceding paragraph, that habits cannot be catalogued and predicted as instincts can, still there are many habits that can be counted on to be present and effective in the life of large sections of the population. Since they are products of environment largely, similarity in environment means similarity of habit life. This is certainly true of most of the habits that would be of interest to the distributor of the necessities and luxuries of life. In our day the habit of cleanliness has come to occupy about as stable a position as the instincts. The tendency to enjoy one day out of every

seven away from one's work may be counted on to about the same degree. The uniformity of habits of thought as well as habits of action may be easily demonstrated. Say the word "lamp," and ask a person to report the first idea that comes into his head and you can count on the answer being "light." In a test like this of 100 words in which "lamp" was one, 650 out of 1,000 people responded with the word "light" out of all the other possible English words that might have come to mind. Give the word "flower" and the response is very likely to be "rose," and so forth.

HABITS MEAN RESISTANCE TO CHANGE

If habits are important because of the fact that they make prediction of behavior possible, they are equally important in a negative sense because of the difficulty of breaking them. The degree to which habits of both thought and speech become fixed and the difficulty of breaking them when once they are established is common knowledge. Yet the introduction of a new product into the market may have to depend for its success upon breaking habits of years' standing in a large portion of the population. Many an effective office device, many a useful household utensil, and many a valuable toilet preparation has suffered from the resistance offered by the well-established habits of thought and action.

The following paragraphs from James¹ might well be carefully studied by every advertising man:

Habit is thus the enormous fly-wheel of society, its most precious conservative agent. It alone is what keeps us all within the bounds of ordinance, and saves the children of fortune from the envious uprisings of the poor. It alone prevents the hardest and most repulsive walks of life from being deserted by those brought up to tread therein. It keeps the fisherman and the deckhand at sea through the winter; it holds the miner in his darkness, and nails the countryman to his log cabin and his lonely farm through all the months of snow; it protects us from invasion by the natives of the desert and the frozen zone. It dooms us all to fight out the

¹James, W., *Psychology*, Briefer Course, 1904.

battle of life upon the lines of our nurture or our early choice and to make the best of a pursuit that disagrees, because there is no other for which we are fitted, and it is too late to begin again. It keeps different social strata from mixing. Already at the age of 25 you see the professional mannerism settling down on the young commercial traveler, on the young doctor, on the young minister, on the young counsellor-at-law. You see the little lines of cleavage running through the character, the tricks of thought, the prejudices, the ways of the "shop," in a word, from which the man can by-and-by no more escape than his coat sleeve can suddenly fall into a new set of folds. On the whole, it is best he should not escape. It is well for the world that in most of us, by the age of 30, the character has set like plaster, and will never soften again.

If the period between 20 and 30 is the critical one in the formation of intellectual and professional habits, the period below 20 is more important still for the fixing of personal habits, properly so-called, such as vocalization and pronunciation, gesture, motion, and address. Hardly ever is a language, learned after 20, spoken without a foreign accent; hardly ever can a youth transferred to the society of his betters unlearn the nasality and other vices of speech bred in him by the associations of his growing years. Hardly ever, indeed, no matter how much money there be in his pocket, can he ever learn to dress like a gentleman-born. The merchants offer their wares as eagerly to him as to the veriest "swell," but he simply cannot buy the right things. An invisible law, as strong as gravitation, keeps him within his orbit, arrayed this year as he was the last; and how his better-clad acquaintances contrive to get the things they wear will be for him a mystery till his dying day.

These paragraphs not only emphasize the great difficulty that one meets in breaking habits, but they also suggest the importance of introducing innovations by way of the young. To sell a novel and labor-saving piece of office equipment to a mature and established executive may be next to impossible; the same device offered to the business student, the executive of the future, may meet ready acceptance and satisfy an inherent desire.

BEHAVIOR DETERMINED BY THINKING

Another form of behavior which is neither reflex, instinctive, nor habitual is that which is controlled by thinking or

reasoning. It is a kind of reserve form of behavior which is available when new and strange situations arise that cannot be met adequately by any of the kinds of behavior previously described. It represents in man the culmination of a long series of evolutionary changes in the direction of increased adaptability, and it is said to be a function that marks man off clearly from his animal ancestors. Man still thinks with difficulty and only in order to overcome obstacles and solve problems. Other simpler forms of behavior are resorted to whenever feasible. Thought is characterized by the apparent freedom of choice by which an individual, after weighing various aspects of a problem, decides upon a course of action. When carried out to a decision it is attended with satisfaction; on the other hand, hindrances to the reaching of a decision cause discomfort or dissatisfaction. Since the outcome of thinking is the result of a choice, it cannot be predicted with the same confidence as other forms of behavior. This uncertainty of outcome is a matter deserving the careful consideration of those who would appeal to reason in their advertising. The choice depends upon at least two factors; namely, the various suggestions which occur to the thinker and among which he may choose, and the relative weight that is to be attached to each of these suggestions. When an advertisement invites thought, it stirs conflict and competition, instead of releasing a ready-made and predictable response. The advertisement may offer suggestions and increase their weight by various means, but the ideas already in the mind of the reader, his personal bias and prejudice as the result of the sum total of his past experience, are unknown factors.

MEANING OF RATIONALIZATION

In spite of the fact that such a large proportion of our behavior is of the non-thinking sort, there is a deep-seated repugnance to the idea that we are not free beings, that our behavior is not under our voluntary control. Just as there

is a well-defined resistance against being led by another person, so is there also a resistance against the idea that we are under the control of natural desires. The psycho-analysts have made popular the conception of a kind of behavior which is a sort of compromise between instinctive behavior and thinking behavior. It is given the name of *rationalization*. It amounts to giving a reason for what our desires, natural or acquired, have led us to do. It is a justification for non-reasoned behavior. Much of our political behavior, our religious behavior, our attitude toward public questions, our investments and even our petty purchases are the results of rationalization and not of reasoning proper.

Rationalization consists in giving an acceptable "reason" for an action, when the action really springs from an unacceptable cause. The cause, that is to say, is too primitive and uncivilized to be admitted to society; yet, the action being desired by the individual and permitted by his fellows, merely offering it under an acceptable "reason" masks the cause and allows it to pass. Thus, rationalization is a form of hypocrisy, necessary to keep the peace between our aboriginal natures and the artificial make-up of society.¹

To return to our illustration of the individual who tries to excel his neighbor by purchasing a better automobile. He could, perhaps, not be expected to confess to his family and friends the real reason for purchasing the particular kind of car that he wants. Nor can he be expected to confess even to himself that mere rivalry or jealousy leads him to make such a considerable expenditure. He finds more acceptable "reasons" in the need of himself and his family for more outdoor air, for recreation, for presenting the proper appearance of prosperity before his business associates, and so forth. He justifies the purchase of the particular car by its low upkeep, long tire mileage, number of miles to the gallon of gas, and so forth, while the real factors may be classy appearance, rakish lines, and the like. The advertisement and the salesman present the powerful appeal to

¹Taylor, W. S., "Rationalization and Its Social Significance," *Journal of Abnormal and Social Psychology*, 1913, XVII, 410.

the natural desires, together with the material by which the purchaser may support his surrender to these appeals. That these devices are not unknown in business may be seen by careful study of many good automobile advertisements and listening to the "talk" of many a good salesman.

ETHICS OF THE ADVERTISING APPEAL

There is an important ethical aspect to this whole question of the use of appeals to these powerful and deeply rooted desires in human nature. Is it right to put into the hands of the distributor of goods weapons such as these, by means of which the man or the woman with money to spend is deprived of his normal control? This matter will be cared for by the recognition of the fact that only those manufacturers and distributors are worthy of survival who render a genuine service to humanity. To lead one to buy what he does not need or what will not benefit him is exploitation; to make available for his use what will increase his comfort and effectiveness in life is service. The great discoveries of engineering and chemistry, which have done so much for human welfare, became weapons of destruction during the war. Knowledge of disease and its causes might be used for destruction of life as well as for its preservation. Our safeguard against misuse of such tools as are here described must reside in the close relationship which we know to hold between intelligence which makes their use possible and moral worth which makes their proper use probable.

The following¹ dramatic presentation of human desires, as forces to be dealt with in advertising, demonstrates the complexity of the practical problem of utilizing them, and the need for a thorough understanding of human nature and its springs of action.

Little Johnny didn't want his bread and milk. Emphatically he shook his head, and pounded the tray of his high-chair with a tiny fist.

¹Henderson, Howard, "Behind the Doorbell," *The J. Walter Thompson News Bulletin*, August, 1923.

"Johnny," said his father, taking up a spoonful of bread and milk, "do you see this monkey? Can you eat the monkey, Johnny? Quick now!—before he gets away!"

A gleeful grin erased the pout on Johnny's face. He stretched out his chin, gulped in the spoonful of bread and milk, masticated merrily, and called for more.

"Now this one is a bear," said his father. . . . And so the game went on until the bowl was empty.

Bread and milk as such didn't interest Johnny one particle. But bread and milk as a new way to play—that brought his appetite up standing!

The problem of the advertiser is how to quicken the buying appetite of the consumer by appealing to some intense desire already in his mind. To do this he must have a sympathetic understanding of the entire Consumer family—an understanding gained only by informal conversations in hundreds of actual homes. For the real clue to the Consumer family's buying appetite lies not in empty theories of human nature, but behind the doorbell.

The buying appetite of Mr. and Mrs. Consumer and all the little Consumers involves their entire philosophy of life. It is the key to their innermost desires and their rooted aversions.

It therefore becomes necessary for, let us say, a soap manufacturer to know what the Consumer family's philosophy of soap is. Does it include merely a concern about the proximity of cleanliness to godliness, or does it extend to the problem of having "a skin you love to touch"? Or, in order to increase the market for X soap, can the little Consumers be sold on the joys of washing behind their ears?

Naturally, during the discussion with Mrs. Consumer, the cold facts about kinds and quantity of soap used, for what purposes and why, will come to light. These data will be later crystallized into charts and figures as evidence of the Consumer family's soap-buying habits already established; and will shed considerable light on the present and potential market for soap.

But the buying appetite—the fundamental desires and aversions of the Consumer family on all subjects immediately or remotely connected with soap—does not crystallize so easily. Yet it is this which must be understood if the Consumer family is to be reached through printers' ink.

One of the first things revealed behind the doorbell is that members of the Consumer family do not want for its own sake the article which they buy. To them, whether they know it or not, it is merely a means to some end.

Mrs. Consumer, for example, buys "P" soap or "W" washing powder because she thinks it will give her cleaner clothes for less

effort. Cleaner clothes at less effort mean afternoons of leisure and the luxury of spotless linen for tables and beds, fresh frocks for the children. And the leisure to enjoy a clean home satisfies one of the profoundest desires in Mrs. Consumer's heart—the selfsame desire, by the way, which urged the prehistoric Mrs. Consumer to give up light housekeeping in a cave for the luxury of a tent of skins.

Again, why should the oldest Consumer boy, an adolescent of 16, use an expensive toilet soap? True, it has a delicate fragrance, but that in itself is not a valid explanation. There's a reason far beyond it. The boy has been troubled with blackheads and other facial disturbances common to his years. Yet at this time he particularly wants to be handsome—sly glances from high-school misses are sweet! Thus, his real reason for buying the soap eventually plunges him into matrimony.

Nor is this hunger for the finer things of life confined to the upper 14% in the income chart. When Mrs. Consumer is a widowed washerwoman in a country town, soap with her is still a means to a greater end than getting through a day's work.

"Look at them clothes!" she says, clicking her iron into the holder for a moment, and proudly fingering the hem of a snowy white table cloth. "Ain't they white? Yes, I gives plenty o' credit to 'P' soap—plenty of it. An' they's lots o' strength an' skill goes into the work besides—yes sir, I ben doin' it some eight year since my man died...."

The life-scarred face shines with a passion for true refinement—in things which are not hers to enjoy beyond the days of washing and ironing.

Even in a truck-driver's family the choice of soap is governed by a real, though disguised, delicacy of taste.

"Why did we stop usin' 'T' soap for dishes?" says the wife, tossing her head crowned by a boudoir cap of bedraggled pink. "Well, when you're drinkin' coffee out of your saucer an' you taste 'T' soap on the saucer they's somethin' wrong with the soap! That's why we stopped usin' 'T' soap for dishes."

Thus, in so seemingly trivial a matter as buying soap, deep-seated instincts and hungers are involved. And the advertiser who, by a strong appeal to these desires, quickens his printed pages into life, will eventually dominate the soap market.

The story just quoted emphasizes a fact that is very frequently lost sight of. *Whether one appeals to instinct, to habit, or to reason the commodity that one is selling is satisfaction of a desire.* The soap, the soft drink, the vacuum

cleaner, the automobile are merely means to ends—cleanliness, satisfaction of thirst, play, health, emulation, and the like. The desires are present, active, or dormant—the selling talk, the copy, the illustration should show how the desire may be satisfied by a particular means. Whether the appeal is to instinct, to habit or to reason, the chain of events is the same, a need, a desire, a reaction, and finally satisfaction. This conception of selling and the commodity that is for sale is worked out in the advertisement reproduced in Figure 80. The thing for sale is distinctiveness and the means of deriving it happens to be the Cadillac automobile.

III

AN INVENTORY OF HUMAN DESIRES

Natural and acquired desires. Means of satisfying desires may be acquired. Behavior the result of a conflict of desires. The desire to drink. The desire to eat. The sex desire. *Desire for rest and comfort. Desire to escape from danger. Desire for self-assertion and submission. Desire to conform and to differ. Parental desire. Desire to play. Desire for sociability. Desire to know. Desire for ownership. Desires as bases of advertising appeals. Desire for cleanliness. Desire for beauty. Desire for economy. Desire to be hospitable.

HUMAN desires and their satisfactions form the fundamentals upon which all selling and advertising methods should be based, hence a knowledge of their nature is essential for any systematic attack upon the problems of advertising from the point of view of the consumer.

It is well to recognize that there is a certain amount of difference of opinion as to which of our desires are natural and which are to be considered as acquired. There are at least two reasons for this. First, some of the desires and their accompanying forms of behavior might be present at birth, but could not well be tested until the child was old enough to have been influenced considerably by training. Second, some of the desires that are natural and not learned might appear only in the course of the maturing of the physical and physiological structure of the person. Hence, it is always difficult to say whether a given desire is natural or acquired. The criterion which is generally relied upon to determine whether certain forms of behavior and certain motives or desires are natural is their universality. If, in spite of differences in race, in geographical location, of traditions and customs of peoples, certain motives for action always crop out, one is pretty safe in assuming that they are natural. The sex desires will serve

as a good illustration. They go through various stages in the course of the lifetime of the human being—certain modifications take place both mentally and physically at well-defined ages. With certain known variations this is the case regardless of the environmental influences. Perversions of these motives, however, are recognized to be acquired because they are not universally present, but depend upon environmental factors.

This uncertainty, which will be gradually dissipated as the result of research, need not disturb the specialist in advertising. The appeals which he will be able to employ most effectively will arouse desires about which there is the least doubt. Furthermore, if an acquired motive is sufficiently universal in its presence to be liable to confusion with native motives then as far as appealing to it is concerned the difference is a negligible one.

MEANS OF SATISFYING DESIRES MAY BE ACQUIRED

Of this also we may be sure; namely, that what undergoes change in the course of life is not so much the desire but the means of satisfying it. Our training cannot change the desire for food and drink, but it can determine whether the means of satisfying it shall be by eating raw meat or Campbell's soup, by drinking water from a spring or by sucking Coca Cola through a straw. It is the very fact of the stability of the desires together with the possibility of change in the means of satisfying them that makes advertising so effective. It is for this reason that our attention will be directed to the desires and their relative strength rather than to the natural means of satisfying them, or the forms of behavior that are involved in satisfying them.

When we come to the measurement of the relative strength of the motives which may be appealed to in advertising, certain difficulties also arise. It must be recalled that, as stated in the previous chapter, the individual responds as a whole, so that when a certain appeal is

presented the response will be the result not merely of the strength of the given motive appealed to, but it will be the result of all the motives that are active at the time. Now, some of these motives are antagonistic and some are cooperative, hence the final reaction is the result of a process of addition and subtraction. Take, for example, the tendency toward gregariousness or the desire to be one among a large group that is appealed to so effectively in the advertising of games and other large spectacles. There is also a tendency to be secretive or a desire to be alone. Now, when a game is advertised as drawing 50,000 people, the effect of that appeal on any one person will be the outcome of a conflict between the two above-mentioned tendencies.

BEHAVIOR THE RESULT OF A CONFLICT OF DESIRES

There is still another difficulty in the path of measurement of the strength of instincts. Not only is there a conflict between certain natural desires and other natural desires, but there is also a conflict between the natural desires and customs or social pressure. It is not *fitting* that one should be swayed by his desires which custom and morals tell him are lowly, hence there is an inhibitory effect exerted upon certain of the natural desires. The response that is made in any case is therefore the result of the struggle among the natural tendencies to action modified by the force which we may call social pressure. Many illustrations of this might be cited. A study¹ was made recently for the purpose of measuring the difference in the strength of certain natural desires in whites and negroes. One tendency chosen for investigation was fear, or more strictly the desire to escape from danger, because the two races were thought to differ considerably in this respect. When all the measurements made in the experiment were brought together it was

¹Crane, A. L., "Race Differences in Inhibition," *Archives of Psychology*, Number 63.

concluded that the two races did not differ in the strength of the tendency to be afraid, but that the whites *showed* less fear because of the capacity to inhibit the ordinary fear manifestations. It is just such conflicts between the natural desires and the inhibitory influences that give rise to the process of rationalization described in the preceding chapter. Whenever the natural desires overcome these checks, one still has left the possibility of giving a "reason" for his action. In this way he satisfies his desires and at the same time acts in conformity with the dictates of his social group.

Since custom does restrict so greatly the satisfaction of desires by the more primitive means, advertising becomes all the more effective by offering for these desires varied outlets which will receive social sanction.

CLASSIFICATION OF DESIRES

In the discussion of the desires and the appeals to them which follows, it is to be understood that we are concerned with the desires that the appeal arouses, and the strength of the desire may be inferred by the character of the response. There will be no attempt to make the list of desires complete. Only those which are of interest and importance in advertising will be described.

1. *The desire to drink.* Woodworth, in his *Psychology*, says, "The whole business of relieving thirst is directed by the native thirst-impulse, and to that extent is an instinctive activity. And shall we say that so simple a matter as meeting this organic need is below the dignity of psychology, and can have little influence on the behavior of mankind? Hardly, when we think of the role played by springs, wells, and drinking places of all kinds in the life of the race, of aqueducts and reservoirs, of all the beverages that have been invented, and of all the people whose job it has been to provide and dispense them. To be sure any beverage



*At your favorite fountain ask
for Welch's straight—10c
Or a larger drink with plain
or carbonated water—10c*



*My dear,
you'll find this refreshing*

SO EASY to increase your guests' comfort and pleasure! So simple to add the perfect touch that secures your reputation as a charming hostess! You aren't experimenting when you serve Welch's Grape Juice. Rather you are sharing one of Mother Nature's oldest secrets of hospitality.

Color, fragrance, taste, appeal vividly to the senses. Welch's Grape Juice is the very essence of Concord grapes that have come to joyous perfection in smiling vineyards. A health drink as well as a happiness drink.

Do you realize how economical it is to serve Welch's Grape Juice? Because it is perfectly pure, the flavor is not sacrificed when it is diluted, and is effective in combination with other drinks. Order it by the case. Always have a bottle on ice. Send for the leaflet of Welch recipes, tempting new things to try.

THE WELCH GRAPE JUICE COMPANY, Westfield, New York

Welch's
Grape Juice

Figure 7: An illustration which, in its original colors, arouses thirst

with a taste, or a "kick" is not simply a thirst-reliever, but makes some additional appeal, good or bad; but all this simply illustrates the way instincts become modified, by combination with other instincts, and by the learning and fixing of various preparatory reactions that were not provided, ready-made, in the native constitution. The drinking instinct, or thirst impulse, is a very good example of this whole class of organic instincts."¹

It is true that this is one of the desires that are aroused as the consequence of an insistent bodily need, but in the absence of such need may be aroused by an external appeal. Thus the little child who sees some one else drinking will almost invariably develop a genuine desire to drink. The success of certain orange drink booths along our city streets must be due in part to the tempting way in which the drinks and the drinkers are exposed to the view of the passer-by—and many a drink is bought because of thirst in a way artificially created. The advertiser seeks to create a like effect under more difficult conditions by his advertising illustrations and copy. This is illustrated in Figure 7.

2. *The desire to eat.* Here again we are unquestionably dealing with a desire that rests upon a fundamental organic need, but which may be aroused in the absence of this need by the sight or smell of food. The desire is not so easy to arouse in this way because of the fact that habit fixes in us a certain routine according to which we eat at regular intervals, in a way which it has not fixed the drinking reaction. Yet everyone knows that food appetizingly presented will arouse the appetite. The huge sales of small packages of candy and the like from news-stands, drug-store counters, and street stands must be attributed to the fact that desire to eat can be aroused effectively in the absence of an inner need. To do this by means of printed advertising requires the greatest skill. The failures and successes may be seen by any one who will carefully observe

¹Woodworth, R. S., *Psychology*, 1921, p. 140.



No pie is better than its crust!

The light, feathery fineness of Swans Down Cake Flour transforms plain pastry into a delicious delicacy, just as it does cake. In any patty case, tart, or pie-crust, this delicate soft flour gives a crisp flakiness and delightful "tenderness" not obtainable with bread flour. And better news still—Swans Down pastry is more than delicious, it is wholesome as well. Swans Down Cake Flour is so light and airy in itself—twenty-seven times as fine as good bread flour—in pastry, it can be mixed much more readily and more thoroughly with less liquid. For the same reason, when placed in the oven it expands more easily and at the same time more evenly. There is no such thing as soggy or tough pie-crust when properly made with Swans Down Cake Flour.

Just try this recipe. The crust is so crisp and flaky it breaks at the touch of a fork. The Swans Down in the filling gives a wonderful smooth creaminess unusually delicious.

IGLEHEART BROTHERS, 2201 Second Ave., Evansville, Ind.
Established 1856

Also Makers of Instant Swans Down and Swans Down Wheat Bran
Ask your grocer for Swans Down. If he does not have it send us his name and we will see that you are supplied



You'll want this cake set!
Only \$1.00 (\$1.25 west of Denver, \$1.50 in Canada) for complete set of Swans Down Cake Making Utensils such as we curiously use. We buy in carload lots and sell to you for exactly what they cost us. Just send a dollar bill. Money refunded if not entirely satisfactory. Set consists of:
8 1/2 inch patented Angel Food tin, 8 inch heavy square tin, aluminum measuring cup, 11 inch slotted wood mixing spoon, set aluminum measuring spoons, 12 inch stainless steel copy of famous "Cake Secrets" (usually 10c), sample package Swans Down (enough for one cake).
Items in this set not sold separately.

No orders accepted for shipment outside United States or Canada

SWANS DOWN

Prepared (Not Self-Rising)

CAKE FLOUR

Preferred by Housewives for 30 years

No pie could be better than THIS crust

All measurements are level. Have all ingredients ice cold. For any regular double crusted pie, use this recipe:
1 1/4 cups sifted SWANS DOWN CAKE FLOUR
1/2 teaspoonful salt
1/4 teaspoonful baking powder
1/2 cup all shortening
Ice water

Sift flour, salt, and baking powder into a cold bowl. Add shortening, cutting it into the flour with two knives until the shortening is distributed through the flour in pieces the size of peas. Add the ice water by the tablespoonful, cutting it into the mixture with knife (or spatula). Do not add any more water than is required to lightly bind the ingredients. (The most common mistake in making pie-crust is adding too much water.)

When the paste forms a ball on the back of a knife twist it around to clean the edge of the bowl and toss lightly onto floured board. Cut in half putting one-half on the ice-box while rolling out the other for the lower crust. Always roll away from you with quick, light strokes.

Roll to about 1/4 inch thickness. Fit loosely on pie tin, trim edge, and pour in pie filling.
Roll out upper crust, fold in center and make several half inch cuts in the dough on the folded edge to allow steam to escape. Moisten edge of lower crust with water. Fit on top crust loosely, pinch edges together, trim dough. To impart glossy color brush top crust with milk. Bake in hot oven (350° F.) until well browned.

The above recipe will make lower crust for two lemons pie.

Lemon Filling

1 1/4 cups sugar
1/2 cupful Swans Down 2 egg yolks
1/2 cupful boiling water
Few grains salt
Juice 2 lemons

Mix the dry ingredients and add to the beaten egg yolks. Add the rind and juice of a lemon and pour in the boiling water, while stirring constantly. Place in a double boiler over fire, stirring until thickened, then cook for ten minutes. Add the butter, pour into a baked pie shell and cover with a meringue made of three egg-whites, 1/4 cupful of sugar, and 1 teaspoonful of lemon juice. Bake at 300° F. for 15 minutes.

SWANS DOWN CAKE FLOUR, as you know, has long been famous for making even the plainest, inexpensive cake delicious. It practically does away with cake failures. (This recipe tested and approved by Good Housekeeping Institute)

Figure 8: This advertisement, which appeared in color, is calculated to stimulate the appetite.

advertising for a few days. The proper use of color, as illustrated in the original of the advertisement reproduced in Figure 8, has been a very potent factor in the stimulation of appetite by means of advertising. It is the function of advertising not to *create* desire but to *arouse* the desire to eat new foods by means of the proper appeals. In other words, the function of advertising is an educational one, a process of associating new subjects with the native desire.

3. *The sex desire.* Here also we have a drive that results from an internal bodily need but of a different sort from the two just described. In the case of the desire for drink and food there is an actual deficiency of certain substances required by the body mechanism. In the case of sex desire the natural stimulus is the secretion into the blood stream of certain substances from the sex glands and probably from other glands; the result is a condition of restlessness that is called "lust," but which we may include under our general term, desire. The facts in regard to sex desire offer an especially good illustration of our earlier statement that education modifies the means of satisfying the desire. Social pressure furnishes such a serious obstacle to natural sex expression that instead of expressing itself in the primitive fashion it appears in the greatest variety of "sublimations." Thus, Allport, in his *Social Psychology*, says: "In the broader spheres of adult behavior the hunger responses join with those of sex to form the powerful undercurrent of practically all human life. The acquisition of a trade or profession may be looked upon as the supreme achievement in the efficient modification of the prepotent reflexes of hunger and sex."¹ And Brill, in his *Fundamental Conceptions of Psychoanalysis*, says that "every activity or vocation not directed to sex in the broadest sense, no matter under what guise, is a form of sublimation."²

¹Allport, F. H., *Social Psychology*, 1924, p. 65.

²Brill, A. A., *Fundamental Conceptions of Psychoanalysis*, chap. xiii.



The things he couldn't say—

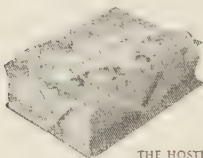
THEY have prompted the gifts of every man from the beginning of time. And so long as the need for saying them exists, they will be said in exactly the same way

Not with words—

But with a gift that brings that delight which everyone longs to see in the eyes of those he loves.

It is not unusual that today the finest of chocolates should be dedicated to the Great Adventure of life.

And it is quite natural that into Romance Chocolates should be put the purest of ingredients, the best liked of centers—and the highest skill of candy-making art.



THE HOSTESS
PACKAGE, \$1.50

The choicest chocolate-covered fruits and nuts—nougats, fruit cordials, glacé nuts and specialties.

THE TIFFANY
PACKAGE, \$1.25

An unusually fine assortment of specialties, all old-time favorites, gathered together in a metal package that is new and striking.



Here are three famous Romance assortments. If your dealer does not carry Romance Chocolates, send us his name and the money for the selection you wish and we will mail you a box—postpaid. Cox Confectionery Company, East Boston, Mass.

ROMANCE SELECTIONS—\$1.00

A selection from the fifteen most popular Romance packages. A wide assortment of pieces—crunchy nuts, full-flavored fruits in the most delicious coatings.



ROMANCE CHOCOLATES

Figure 9: The sex appeal is subtly woven into this advertisement.

There is no disagreement among authorities concerning the expression of sex behavior in such modified forms; the disagreement concerns the question as to how wide spread are these modified sex reactions. The psychoanalysts have considered them the one fundamental drive in all human behavior. We can recognize their potency for advertising appeals without taking such an extreme position. Not only has there been this great increase in modes of satisfying the sex desire, but there has been a corresponding spread in the appeals to it. In animals the internal stimulus may be the only one, so that external appeals are effective only when the internal drive is present. This may have been the case too with primitive man, but it is certainly not the case with man today. Man is probably sensitive to the sex appeal at all times and as frequently responds to it in sublimated form. Not only persons of the opposite sex, but objects, pictures, statements, ideas may arouse these desires that may manifest themselves in the purchase of handsome garments, jewelry, books, face powder, automobiles, furniture, and decorations. In fact, this desire in its sublimated form is so wide spread that it may, under skilful hands, be made to furnish the drive toward the purchase of almost any kind of object. Age limitations must certainly be recognized, for in the case of very young children and in very old persons it would not be so effective, but for the great buying public of adults, say 15 to 50, it is a very potent force. In Figure 9 we find the sex appeal neatly woven into an advertisement for candy.

4. *Desire for rest and comfort.* This is certainly to be considered a response to an organic need, and its biological foundation is to be found in the need for protection of the body structure from exhaustion. The natural responses to this need may be seen in many of the animals, for example, in the dog which retains even under domestication the response of turning around several times before lying down in order to prepare his bed. Although the responses to



Ask yourself how well—and not how long—you slept last night

IF the quality and depth of everyone's sleep were the same, it would be an easy matter to decide the number of hours of sleep required to sustain the highest degree of mental energy and the bodily health and vigor which we all desire.

But only those who waken naturally, fully rested and ready for the day, sleep well enough and long enough. If your mornings always seem to come too soon, you are being cheated of some of the rest you need to achieve efficiency and personal success. And it may be that your sleep equipment is to blame.

Because the quality of sleep you get depends almost wholly upon the kind of spring and mattress you use, aren't they worth your careful consideration right now?

Spare a few minutes tonight to examine your bedding critically. Then go to your dealer's and compare it with the Simmons mattresses and springs he offers in a range of styles and prices to suit every taste and fit every pocket book. All are built of clean, new materials, entirely sweet and safe to use. No finer or more luxurious mattress than the Simmons Purple Label is made in America.

Soft tan and ivory walls harmonize with the hand-blocked linen curtains and heavy silk taffeta bed covers in this charming English chamber. The rich blue of the dresser slip, window draperies and comfort is supported in tone by the hydrangea rug. The lamp shades combine corn-colored and blue taffeta. Chintz or cretonne can also be used for curtains, and mercerized cotton taffeta or poplin for bed covers. The beds, night table and dresser are from a complete new suite of Simmons Steel Furniture, Design 209-G, Sheraton in effect, in a finish reproducing American walnut. Also supplied in brown mahogany, leaf green, Venetian blue, putty gray, ivory and jade green. Beds are Design 1926. Write for booklet, "Restful Bedrooms," to The Simmons Company, 666 Lake Shore Drive, Chicago.

SIMMONS
Beds Mattresses Springs Built for Sleep
and BEDROOM FURNITURE



Figure 10: One of the numerous ways of playing upon the desire for rest and comfort

this need in the human being and especially in the adult human are very far removed from natural reactions, they figure very largely in his behavior in the form of taking care to find or provide a good place to rest and sleep. The uses of an appeal to this deep-seated desire are not so limited as may appear at first because the responses for providing proper conditions for rest and comfort are almost unlimited. From the more obvious appeals to the desire for comfortable bedding, such as mattresses and springs, we may go to chairs and other articles of furniture, to the home itself and its comforts and even to the location of the home, whether city, suburb, or country. Figure 10 demonstrates the manner in which the desire for rest and comfort may be played upon in advertising beds. The appeal is carried both by the copy and the illustration.

5. *Desire to escape from danger.* There is no doubt that one naturally makes certain responses to escape from danger and that with these responses there goes the mental state known as fear. According to Woodworth there are two kinds of stimuli that arouse these escape reactions; first, those that directly cause some irritating sensation, and second, mere signs of danger. Illustrations of responses to the former are coughing, sneezing, clearing the throat, limping, wincing, and so forth, and to the latter are flight, cowering, and so forth. Recent investigations lead us to believe that most of what are now looked upon as danger signals by children and adults could not have been natively so, but have become associated with the escape reaction through training. To quote from Woodworth: "On the whole, the danger-avoiding reactions are probably not linked by nature to any special signs of danger. While the emotion of fear, the escape impulse, and many of the escape movements are native, the attachment of these responses to specific stimuli—aside from directly irritating stimuli—is acquired. Fear we do not learn, but learn what to fear." The desire to escape from snakes, mice, large

wild animals, and the like, is now thought to be acquired rather than natural.

Not only have the kinds of situations that arouse the escape reactions multiplied and become more specific, but so also have the forms of response increased in number and their character changed according to the nature of the stimulus. About all that we have left of the native equipment, except in rare circumstances, is the desire to escape and the fear that attends it. For example, we have the desire to escape disease. The response to the danger of disease is not running away but the use of precautions, such as antiseptics, and the like. Then we have the response to the mere symbol of disease in the form of the quarantine sign. The response is here simply keeping away, complying with regulations, and so forth. The degree to which new responses and new appeals can be associated with native desires is a matter of the utmost importance to the advertisement writer. Quite a bit of the education into new fears and the ways of avoiding harm has been carried on by means of the printed word and the picture, just the mediums upon which the advertiser depends. The advertising campaigns created by the Life Extension Institute and the Metropolitan Life Insurance Company are good illustrations of an effort to educate for health through the medium of advertising.

This desire to escape from danger affords a good illustration of an important characteristic of the native desires. The desire to escape is a desire to escape from some immediate danger and not some possible danger in the future. If one is to be made to foresee future dangers and guard against them he has to be educated to do so. When the dangers are remote the desire is especially likely to be weak. To get a person to go to a doctor when he is sick and in danger of dying may be relatively easy; to persuade him to go to a doctor when he is well, in order to keep well or to avoid possible illness, is very difficult. To get people

to purchase life insurance in order to protect their families in case of death, to persuade people even to purchase health insurance to protect themselves in case of sickness is always difficult and requires ingenious salesmanship. This is simply because the danger appears remote, and the safety obtained correspondingly remote. The effect should be immediate. This result is often achieved by arguing for the immediate protection that life insurance will give because of its cash surrender value, or because one can borrow on his policies. He may be made to feel that he is making an investment that gives him an immediate return. The fact that people of this country spend 16 times as much money on luxuries as they do on insurance, two-thirds as much on chewing gum, and one and one-half times as much on cigarettes and cigars is not due entirely to the fact of the difference in the extent of the advertising, although it certainly is due in part to that. Part of the reason is to be found in the more immediate character of the satisfaction derived from the one type of response as compared with the other. The fear of disease is appealed to in the advertisement reproduced in Figure 11, on the following page.

6. *There are numerous desires that are aroused only as the result of interaction with other persons*, as contrasted with those that are due to some bodily need. The most important of these are what are known as self-assertiveness and submissiveness. As their names imply they are antagonistic and most behavior is in part at least the result of the struggle between these two. Woodworth divides the first into four types of desire; namely (*a*) the desire for success, for overcoming obstructions and putting through what has been undertaken; (*b*) the desire for independence, resisting domination by other persons; (*c*) the desire for power, especially over things; and (*d*) the desire to dominate over other persons.

Woodworth thus describes their manifestation in the child and in the adult: "Besides giving orders and taking



Crowds fill the air with germs. The city's dust by irritating the throat, causes them to develop. This is the beginning of most infections.

During Epidemics —safeguard the throat

When epidemics are raging, or when colds and sore throats are going the rounds, do you take steps to protect yourself against infection?

At these times your bodily resistances, which ordinarily protect you against disease, are likely to break down. They should then have help to enable them to throw off the millions of germs that you draw into your mouth and throat with every breath you take.

Formamint tablets kill germs right here—at the port of entry. When dissolved slowly in the mouth they liberate a powerful yet harmless germicide, which, combining with the mouth fluids, penetrates to every fold and crevice in which germs can lodge and destroys them at the start.

Whenever your bodily resistances are low, or when you have to come into contact with people with coughs or colds—you can carry Formamint with you. You will enjoy its refreshing taste. All druggists.



tablet in the mouth every one or two hours.

On receipt of four cents for postage, we will send you a pocket-case containing five Formamint Tablets. Address Bauer Chemical Co., Dept. E-3, 113 West 18th St., New York City.

the lead, there are other ways in which the child finds satisfaction for his instinct to dominate. Showing off is one, bragging is one, doing all the talking is one; and, though in growing older and mixing with people the child becomes less native in his manner of bragging and showing off, he continues even as an adult to reach the same end in more subtle ways. Going about to win applause or social recognition is a seeking for domination. Anything in which one can surpass another becomes a means of self-assertion. One may demonstrate his superiority in size, strength, beauty, skill, cleverness, virtue, good humor, cooperativeness, or even humility, and derive satisfaction from any such demonstration. The impulse to dominate assumes literally a thousand disguises, more rather than less."

Although the fact of desire for submission is harder to establish there seems good reason to believe that it is pretty generally present in human nature. It


Figure 11: An appeal to the desire to protect and safeguard oneself from disease (See page 55)

shows in the child or the adult who believes whatever is told him. As Woodworth describes it, it is not necessarily an undesirable trait, but on the contrary may be of great value in adapting ourselves to our environment. Adaptation or submission is called for when the reaction that is first made to a given situation is not adequate. Giving up the first reaction and trying something else is the way toward a successful issue.

The appeals to this self-assertion group are wide spread in advertising, and the commodities advertised are of every sort. Correspondence schools practically always play upon the desire for success; banks and bond houses stimulate the desire for independence, automobiles may be sold because they appear as an adjunct to domination. Even fountain pen advertising may lead the reader to picture himself as he appears in the eyes of others and force him to try a new brand of pen (see Figure 12). Regardless of the

Their Mental Picture of You

is formed from your Penmanship



Real and
True
Good
Character
New Idea
The
Parker
Pen

Not a Week Goes by
but a Splendid Pen Improves
Your Writing—
Thus Beters Your Chances

A GOOD pen costs a lot less than good clothes, yet often it's just as important, or a whole heap more!

Take the man or woman who applies for a position—the salesman who writes to a prospect—the student who submits a theme—take your own correspondence—social or business, or both—don't you realize how people picture you by your handwriting?

Can you successfully compete with the thousands of men and women who now carry Parker Duofold Pens and are daily writing success into their careers?

For Duofold's super-smooth point and balanced shaft give the hand full swing—the mind full play.

This shapely Classic *inspires* writing—it gives each task a welcome!

And its lacquer-red color with flashing black tips gives it style and identity that the world will respect you for choosing. It's a color that makes this a hard pen to lose or mislay.

Seven dollars spent for the Over-size Duofold or five for the Duofold Jr. or Lady Duofold will put you on an even basis with anybody! Money back in 30 days (if you don't write better than ever! At all good pen counters, of course.

THE PARKER PEN COMPANY
Manufacturers also of Parker Duofold
Pens to match the pen, \$1.50
Factory and General Office, Jenneville, Wis.
New Station, Singer Building, N. Y. C.

Parker Duofold

With The 35 Year Point

Duofold Jr. \$5 Lady Duofold \$6
Same except for size With ring for chainable

Figure 12: Selling fountain pens through an appeal to ambition and desire to succeed

Speed up Success!



What is the man in the picture doing?

Watching others go by him, just like thousands of other men, who let the procession of live ones pass them by.

Perhaps he is wondering why these other men of no greater physical strength or mental ability can own automobiles and ride toward success while he plods along, year after year, not only not making progress, but actually falling behind.

Each of the men whom this bystander typifies is very like a dormant gasoline engine.

A little cranking of INITIATIVE and a spark of AMBITION would wake him into ACTION, and convert potential power into a reality.

How much you accomplish in the few years when your physical and mental powers can function at highest efficiency depends very largely on the means you employ to SAVE TIME.

If you can move your person twice as fast and apply your personality in twice as many places as some other chap, your chances for success are twice as good as his.

That is where the Chevrolet comes in.

It is more than a time saver, it is a personality multiplier, a time doubler.

If you are one man on your feet you become as two men in a Chevrolet.

Speed up Success! Get there! Keep up with the procession! Enter the great race against Time!

You can do it. There is no intelligent worker so poor he cannot arrange to buy a Chevrolet. There is none so well-off as to feel above the grade of this quality car.

Call on the nearest Chevrolet dealer. Find out how easy it is to buy it and how low its operating cost.

Prices f. o. b. Flint, Michigan

Superior Roadster	\$490
Superior Touring	495
Superior Utility Coupe	640
Superior 4-Place Coupe	725
Superior Sedan	795
Superior Commercial Chassis	395
Superior Light Delivery	495
Utility Express Truck Chassis	550

(Fisher Bodies on all closed models)

Five United States manufacturing plants, seven assembly plants and two Canadian plants give us the largest production capacity in the world for high-grade cars and make possible our low prices. Dealers and Service Stations everywhere. Applicants will be considered from high grade men only, for territory not adequately covered.

Chevrolet Motor Company

Division of General Motors Corporation
Detroit, Michigan

In Canada—Chevrolet Motor Company of Canada Limited, Oshawa, Ontario

for Economical Transportation



Figure 13: Rivalry is one of the most effective stimuli to action.

Johnston's

CHOCOLATES



Even the *Casual* Offering
May Have Distinction
So send Johnston's

YOU can give her "something different," no matter what the gift. In candy, let it be JOHNSTON'S CHOCOLATES. The Choice Box, perhaps, with its 22 different kinds of candies, will suit her every whim.

Its distinctiveness will please her. Where good taste must be shown, Johnston's Choice Box is the gift *sans reproche*. Each piece of chocolate offers her its sweetness in a new and delectable form.

You will find an authorized Johnston's Candy Department
in one of the better stores in your neighborhood

ROBERT A. JOHNSTON COMPANY, MILWAUKEE



Figure 14: Selling distinction where it is certain to be desired



JOHN DAVID
 Street-Bloch Smart Clothes Men's Furnishings And Hats
Exclusive, But Not Expensive
 BROADWAY, AT 32nd STREET, Facing Greerley Square
 1246 BROADWAY, Hotel Martingale
 EXCHANGE PLACE AT NEW STREET, One Block From Wall
 318 MADISON AVENUE, Facing Hotel DuSable
 125-127 WEST 42nd STREET 63 BROADWAY, Balcon Wall
 COURT STREET, At Montague, BROOKLYN



***"Exclusive, But
Not Expensive"***

THE Foregoing Phrase Has Been Used Continuously For Many Years By The John David Shops At The Top Of Every Advertisement. This Phrase Is Instantly And Inseparably Identified With Our Business In The Minds Of All New Yorkers And Is A Complete And Condensed Statement Of Our Policy In Merchandising.

[EXAMPLE]

Ⓒ Town-Famous, Form-Fitting, Custom-Constructed John David Excellio White Oxford Basketweave Shirt; Collar Attached Or Collarless, As You Prefer; Washes As Soft As New; This Remarkable Shirt Has Never Been Equalled In Popularity Because It Has Never Been Equalled In Value; Inexpensively Priced Here At \$1.95.

COMPARE!

form the advertising may take, or the commodity which may be advertised, it is the same self-assertiveness which is the main-spring of action. Figure 13 contains an interesting appeal to ambition.

7. *There are two other forms of antagonistic desire, which might be considered as special cases of self-assertion and submission. These will be described because they are of vital importance in the understanding of the control of behavior through advertising. They are the desire to conform with what others are doing and the desire to be different from others. These two desires are clearly antagonistic, and behavior in the presence of others is determined in part as a result of the struggle between these two desires. In both of these cases there seems to be a desire for approval or a desire to escape from disapproval of others. Figure 14 is an illustration of the appeal to the desire to be different. In general one may say that*

Figure 15: The desire to be different and the desire to conform are at the bottom of style.

there is a tendency to conform to what our superiors are doing and to be different from our inferiors. Since this is the case there is a shifting of attitude within any one individual according to his surroundings. The constant struggle within the individual to be different and at the same time to conform manifests itself in convention and custom, style and fashion, and their more extreme forms known as fads and crazes. This shifting of the conformity, non-conformity attitude forms the basis of a large proportion of our class advertising. Advertising to the well-to-do features distinction and difference. Advertising to the general public features conformity. Figure 15 offers an interesting case for analysis. Figure 16, on the following page, is a subtle appeal for conformity.

Fashions originate with garment manufacturers and milliners who exploit the controls inherent in social behavior for their personal interests. Certain persons who seek to assert their individuality and who crave the superficial admiration of others, quickly don the new style. These are usually the more suggestible persons, who first succumb to the display models and advertisements of the merchant. When a few appear in the new mode the impression of universality and social conformity begins to work upon the general public. There arises an unthinking impression that *all* are adopting the style. Exceptions are overlooked. Social conformity swings the individual into line, and completes the attitude to purchase the new attire. The first stage of suggestion is thus accomplished. These combined attitudes are commonly expressed by the phrase, "they are wearing." The average person seeks to be a follower rather than a leader of fashion. He aims at conformity rather than differentiation. This fundamental and unreasoning conformity is generally rationalized by saying that one does not wish to appear shoddy, careless, out of date, or conspicuous.

Distinctions of caste allow the manufacturers to keep the styles profitably moving. Those of the humbler level seek to identify themselves with the rich and exclusive by simulating the garb of this class. These, in turn, finding their exclusiveness threatened, hasten to adopt a new mode. Thus pursuit and differentiation follow one another in endless succession.¹

¹Allport, F. H., *Social Psychology*, 1924.



"Jones Must Be Broke"

SURFACE appearances . . . snap judgments . . . hasty conclusions. No matter how beautiful your home may be within, an outside surface of dilapidated paint is sure to give an unfavorable impression of your circumstances.

Confidence, consideration and respect surround the family whose home, inside and out, bears the beaming look of prosperity that only the proper use of Paint and Varnish can impart.

But remember . . . you can't get more out of the painting job than the manufacturer has put into the paint. For five generations Devoe has meant supreme quality in Paint and Varnish Products.

When you paint with Devoe you get all the beauty and durability you can get out of any other product . . . plus a guarantee, backed by the Oldest Paint House in America, that Devoe will cost less money per job and give better results than any other paint you can buy.

This Coupon is WORTH 40 CENTS

Fill out this coupon and present it to any Devoe Agent within thirty days. It is worth 40 cents when applied to the purchase of any Devoe Paint and Varnish Product, amounting to 50 cents or more. If you do not know the name of the Devoe Agent notify us.

Your Name _____ Address _____

Town _____ State _____

Devoe Agent's Name _____

Your Dealer's Name _____ T. & J.

One coupon to a person. To be used by adults only.



DEVOE

PAINT AND VARNISH PRODUCTS

THE OLDEST, MOST COMPLETE AND HIGHEST QUALITY LINE IN AMERICA

New York DEVOE & RAYNOLDS CO., Inc. Chicago

NEW YORK: 34 East 42d Street

101 Fulton Street

Figure 10: In the situation here depicted there is no desire to be different but there is a strong desire to conform. (See page 61)

Fads and crazes are described as extreme cases of conformity, usually combined with the influence of certain other fundamental drives or desires. Thus, fads, such as bobbed hair, rolled stockings, feminine smoking, and general "flapperism" are based upon the desire to arouse the interest of the opposite sex. Much of the present-day superficiality seems to express a persisting infantile drive for compelling attention through self-exhibition. Financial crazes represent a combination of prepotent and derived reactions; hunger, sex, social control, and desire for distinction being the predominant interests.

The recent history of the Franklin automobile offers an excellent illustration of the functioning of these two desires. Some years ago the Franklin engineers designed a car whose lines should be such as to offer the least air resistance and at the same time be beautiful. In appearance it was distinctly different from the other cars in its class. The car happened to appeal to the great class of buyers where conformity was the ruling influence, where as patterns changed from year to year the buyers were sure to follow. This need of conformity did not permit of too great difference in appearance. The design of the car, especially the hood, was apparently changed to its present form in order to conform more nearly to the shape of other cars of its class. In extremely high priced cars great difference is a distinct asset; it sets the owner off from others as he wishes to be set off. In the moderate priced cars great difference is a liability, it marks the owner off too sharply from those with whom he needs to conform.

This need to change and need to conform keeps markets active that would otherwise be dull. It is present not only in the ownership of clothing, jewels, and automobiles; it is just as evident in the kinds of books that one reads, in the kinds of spectacles that one wears when one reads the books, in the styles of homes and their furnishings, even in the location of these homes. The advertiser who sells



Kodak in the Home

A Kodak record of the children catches them just as they are and keeps them just as they *were*.

Ask your dealer for the free booklet
"At Home with the Kodak." You'll
find all *indoors* invites your Kodak, too.

Eastman Kodak Company, Rochester, N. Y. *The Kodak City*

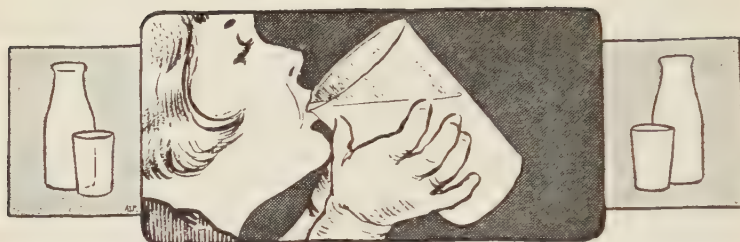
Figure 17: A very effective kind of appeal to parents

conformity where it should be sold and difference where it should be sold will have a ready market for his goods, and it makes little difference whether he deals in face powder or country estates.

8. *Parental desire.* Most women are interested in little children and are said to have a strong maternal instinct. There is a great question whether all adults are not interested in children, although the males may be less so than females. To quote again from Woodworth: "Undoubtedly the woman who has recently become a mother is most susceptible to the appeal of a little baby, but the response of other women and of girls to a baby is so spontaneous that we cannot but call it instinctive. Men and boys have no special desire to feed or cuddle a little baby, and are quite contented to leave the care of the baby mostly to the 'women folks.' But they do object strongly to seeing the baby hurt or ill treated, and will respond by protecting it. Also, they like to watch the baby act, and like to help it along in its efforts to do things. This may be instinctive in the man; at least it reminds us of the behavior of a young mother cat or dog or horse, when she plays with her young and stimulates them to action."¹

As this quotation indicates, we have a very strong desire, probably natural in women to care for, fondle, and watch little children. Like all other tendencies of this sort it may be aroused by quite a variety of stimuli. Thus, the mothering desire may be shown in the presence of baby animals, pets of all sorts, and even adults that are in need of help. It is thought by some authorities to be the basis for all sympathy. Like other tendencies we have studied, the response to the presence of the desire may take varied forms according to the nature of the stimulus. Thus the response may be the purchase of a kodak where such a device is represented as the means of preserving the memories of the antics of children (see Figure 17). Or pianos

¹Woodworth, R. S., *Psychology*, 1921, p. 149.



Protect Your Child from Every Germ-Source

YOUR milkman exerts every care to protect your milk all the way from the cow to your doorstep. If you will only be as careful as he is, you can keep every bottle uncontaminated until used up.

But if you open bottles with a tarnished fork, or the ice-pick, or even your thumb, you open a doorway for germs; and in they will swarm. And after you have crumpled or punctured a milk bottle cap, you never can replace it tightly—the partly-used bottle

of milk is constantly in danger of contamination.

Perfection Milk Bottle Caps will protect your milk. Easily lifted off by a tab which will not tear off, and can be replaced as often as you wish.

Send the coupon today, and let us send you, free, enough Perfection Caps for a month's protection. After you've tried them, seen for yourself how safe and convenient they are, ask your milkman to use them. Send the coupon now

PERFECTION

MILK-BOTTLE CAP



*Drink
more milk*

**AND PROTECT IT WITH
PERFECTION PULL CAPS**

PZ

JUST TEAR OFF THIS COUPON AND MAIL

THE
SMITH-LEE COMPANY
537 Fitch St., Oneida, N. Y.

Without obligation, please send me
a month's supply of Perfection Caps.

Name _____

Address _____

Figure 18: It would be difficult to find a more effective combination of appeals than is used to sell this commodity.

may be sold because of the delight and enjoyment they bring to children. Once the desire is aroused, the response depends upon circumstances, and these are in part within the control of the skilled advertiser. No observer of advertising can fail to notice the frequency with which this interest in babies and children is appealed to. Pictures of attractive and appealing babies are often presented where the connection with the commodity advertised is extremely remote. The danger of such procedure will be pointed out in a later chapter. It is not wise to arouse desires that cannot be satisfied in some measure by the article advertised. Figure 18 shows a combination of the parental appeal and the self-protection appeal used in the advertising of a milk-bottle cap. This device might have been presented in a great number of other ways, but it would be difficult to find a more effective combination of appeals.

9. *Desire to play.* The satisfaction which a young baby seems to get from just moving his arms and legs about, the satisfaction which older children get from their games and sports, the satisfaction which the adult certainly gets from recreations of various sorts, leads us to believe that the desire to play expresses a real need of a fundamental sort. The chance to play, coupled with the call of the out-of-doors, forms an appeal which will arouse desire in most human beings. Of course, the forms that the play takes depend upon a great variety of conditions, and many other desires may be brought into action in determining just what the particular form of response shall be. There is no doubt that the desire to conform, showing itself in fads and crazes, has much to do with present-day play. If one were to insert, for the expression "they are wearing," in our quotation concerning fashion, the expression "they are playing," the rest of the description would be equally appropriate. An examination of modes of recreation and kinds of sport of the last 25 years will support our view that there is a deep-seated desire for play, and that advertising used in a broad sense



PLAY

A NECESSARY part of the life of every human being. The fact that years ago someone gave utterance to the axiom that "all work and no play makes Jack a dull boy" does not alter its truth.

We all envy little children at their games. They are often serious and filled with great moment as are the later games of business and life. At other times with cries of merriment and laughter they romp tirelessly through the hours.

What though the hours may have brought a hurt or two, a bruised head? Play has rendered them forgetful, and when, tired and worn out, they creep up

to their mother's knee for a "good night" prayer they are ready for deep healing sleep.

And likewise men, whose days are beset with worries and cares, they too, need play to make them forget for a brief space the things which trouble them. Somewhere every one of us must find the time and the place for play, where mind and body may romp unrestrained.

To those who feel that play is costly, a little laid by now and then would bring the opportunity for play, and the renewed vigor which they would experience would cause them to exclaim that Play indeed is one of "The Good Things of Life."

Baird and Warner Offers You *Play*



[A copy of "The Good Things of Life" of which this page is a part, will be sent free to those seeking safe investments.]

BAIRD & WARNER, INC., Bonds and Mortgages, Chicago



Figure 19: A most direct and obvious appeal to the need for play

probably has a large part in determining just what form the response shall take. Figures 19 and 20 show two interesting adaptations of the appeal to play in connection with widely different propositions.

10. *In our human relationships there are two desires that play an important part.* These are the desire to be with other people, usually of our own kind, and the desire to be alone, called, by William James, *Sociability and Shyness*. Whether in any particular situation one or the other desire will find expression depends on the relative strength of these two tendencies in the individual and the nature of the circumstances. In any case there must be a compromise between the two. In rare cases the desire to be alone is so consistently strong that the recluse develops, but more frequently the other tendency is the more powerful and gives rise to an insistent need for sociability. Some question has arisen in recent years as to whether this sociability-shyness reaction is really natural. Earlier investigators found support for such a natural desire in the apparent need of certain animals for associates, manifested by their great uneasiness when alone or separated from the herd. Here it is called gregariousness or the herd instinct. To the need for sociability William James attributed the great suffering experienced by persons sentenced to years of solitary confinement. There is no doubt that the sociability shown by adult humans is the result of a complex of desires rather than one single native desire. Thus, according to Allport,¹ "cities draw youths from the country by a variety of excitements and opportunities having a universal appeal, and based upon the prepotent demands of each individual. Desire for flirtation, or the sexual interest, constitutes the greatest single cause of the thronging of public parks and cafés. There is always some definite aim or interest, other than merely 'getting together,' in every congregation of people."

¹Allport, F. H., *Social Psychology*, 1924, p. 77.

for Economical Transportation



Will Your Family Be Happy This Summer?

Why waste time figuring whether or not you can afford to buy a Chevrolet?

Consider, rather, the cost of not owning one

Add the cost of other family transportation, or even of walking, to the cost of evening and holiday recreation, and you will probably discover you are paying the price of Chevrolet economical transportation without getting it.

Or think of a Chevrolet as a movable

home, in which all the family can enjoy healthful, inspiring journeys to the country, the seashore or the mountains.

The Chevrolet more than justifies its small cost, economically, but do not let this important fact blind you to its educational, recreational and social advantages.

It is easy to buy—you can pay as you ride—and the total price and cost of daily use is well within the means of the average family. Most of your friends have cars. Why be different?

Chevrolet Motor Company, Detroit, Michigan Division of General Motors Corporation

In Canada—Chevrolet Motor Company of Canada, Limited, Ottawa, Ontario

Five United States manufacturing plants, seven assembly plants and two Canadian plants give us the largest production capacity in the world for high-grade cars and make possible our low prices. Dealers and Service Stations everywhere. Applications will be considered from high grade men only, for territory not adequately covered.

Prices f. o. b. Flint, Michigan			
Superior Roadster	\$490	Superior Sedan	\$795
Superior Touring	495	Superior Commercial Chassis	795
Superior Utility Coupe	640	Superior Light Delivery	495
Superior 4 Passenger Coupe	725	Utility Express Truck Chassis	550

(Fisher Bodies on all closed models)

Figure 20: An automobile may be sold to satisfy the need for play and recreation. (See page 69)

Whether the need for sociability is reducible to one or many fundamental desires, its potency is generally recognized. It is one of the strongest appeals of pleasure resorts and other large congregations of people. One enjoys a play much more if he sees it in the midst of a well-filled theater, than if the building were half-empty. It is a great question just how much any one would enjoy a championship football or baseball game if he were doomed to be the only spectator. This desire to be one among many, coupled with the desire to "conform" or do what others are doing, makes a powerful combination to which advertising may appeal. Together they form the basis of what is called "crowd suggestion," one of the best illustrations of which is the behavior of people around a bargain counter. Figure 21 gives a unique presentation of the sociability appeal in advertising. Usually this appeal is made to function in a much more subtle fashion.

11. *Two other antagonistic desires need to be described; namely the desire to explore what is new and strange, and the desire for the familiar.* As in the other antagonistic motives previously mentioned they may both be aroused by the same situation and the resulting behavior shows which is the stronger. Sometimes they may alternate so that curiosity, the desire to understand a strange situation, is the ruling motive, shortly followed by an apparent fear of the same situation. Such alternation is more easily observed in animals when they are placed in the vicinity of some novel object. The biological significance of these two motives is well expressed by James¹: "Inasmuch as new objects may always be advantageous, it is better that an animal should not absolutely fear them. But inasmuch as they may also possibly be harmful, it is better that he should not be quite indifferent to them, either, but on the whole remaining on the *qui vive*, ascertain as much about them and what they may be likely to bring forth as he can,

¹James, W., *Principles of Psychology*, Vol. II, p. 429.



S O C I A B I L I T Y

SOCIABILITY broadens life's paths, strengthens the mind, buoys up tired nerves, and rescues one from the pitiable state of shallow indifference. It is therefore inestimable in its value and its benefit to mankind.

Sociability comes with closer association with friends, during the motor trip, the evening's entertainment, at the theatre, the club, or the matching of wits at dinner.

But much as men desire Sociability, and much as they may recognize the benefits therefrom, they often find themselves hampered and restrained by a lack

of funds to make it possible, and it remains for them to imagine such pleasures.

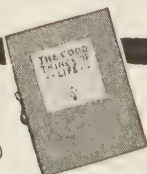
With the regret occasioned by such a loss, many men have, with determination, frequently given to their wives, to their children and to themselves this needed Sociability, by saving and investing wisely.

One always meets with Sociability on the road of "The Good Things of Life" and it is possible for anyone to bring into his life greater pleasure and profit through investing in safe Real Estate Bonds, and thus building the necessary surplus.

Baird and Warner Makes Possible *Sociability*

SINCE 1855

©



[A copy of "The Good Things of Life" of which this page is a part, will be sent free to those seeking safe investments.]

BAIRD & WARNER, INC., Bonds and Mortgages, Chicago



Figure 21: Showing the need for sociability rather than appealing to it indirectly

before settling down to rest in their presence. Some such susceptibility for being excited and irritated by the mere novelty, as such, of any movable feature of the environment must form the instinctive basis of all human curiosity; though, of course, the superstructure absorbs contributions from so many other factors of the emotional life that the original root may be hard to find."

The adult never entirely outgrows these two tendencies. In any normal individual curiosity may always be appealed to with a good chance of arousing a desire to understand. It is a common trick in advertising to play upon curiosity to gain attention. The writer has seen numerous cases in the last few years, where the only copy in the advertisement has been "?" or "Watch this Space," "The Key to Health," and so forth, the intention being to arouse sufficient curiosity by this novel situation to stir up a strong desire to know. The question may be legitimately asked, "What will be the attitude of the average person when his desire to know has been satisfied?" If what he learns is something trivial, as, for example, the name of a chewing gum, the response is not necessarily favorable to the commodity thus presented. Such appeal devices as this are difficult to handle and are effective only when rarely and skilfully used.

The desire for the familiar is expressed in numerous ways, as, for instance, the appeal of a home of one's own where one may be surrounded by familiar things and where nothing is strange. The meaning of the term "comfortable" is often well expressed by the word "familiar." The workman does best with his own familiar tools, the writer with his own particular pen. Even children may insist upon occupying their own particular chair, or eating from a particular plate and on being sung to sleep always with the same old song. They are "little creatures of habit" not only in the sense that they readily form habits, but in the sense that they find satisfaction in familiar ways and things. Here we see the germ



Often a bridesmaid but never a bride

EDNA'S case was really a pathetic one. Like every woman, her primary ambition was to marry. Most of the girls of her set were married—or about to be. Yet not one possessed more grace or charm or loveliness than she.

And as her birthdays crept gradually toward that tragic thirty-mark, marriage seemed farther from her life than ever.

She was often a bridesmaid but never a bride.

That's the insidious thing about halitosis (unpleasant breath). You, yourself, rarely know when you have it. And even your closest friends won't tell you. Sometimes, of course, halitosis comes from some

deep-seated organic disorder that requires professional advice. But usually—and fortunately—halitosis is only a local condition that yields to the regular use of Listerine as a mouth wash and gargle. It is an interesting thing that this well-known antiseptic that has been in use for years for surgical dressings, possesses these unusual properties as a breath deodorant.

It halts food fermentation in the mouth and leaves the breath sweet, fresh and clean. Not by substituting some other odor but by really removing the old one. The Listerine odor itself quickly disappears. So the systematic use of Listerine puts you on the safe and polite side.

Your druggist will supply you with Listerine. He sells lots of it. It has dozens of different uses as a safe antiseptic and has been trusted as such for a half a century. Read the interesting little booklet that comes with every bottle.—Lambert Pharmaceutical Company, Saint Louis, U. S. A.

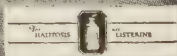


Figure 22: An interesting and subtle appeal for the creation of a new personal habit

of a "conservative tendency in human nature, which balances to a greater or less extent, and may decidedly over-balance, the 'radical' tendency of exploration."

In the purchase of goods this comfort one gets from the familiar must be reckoned with by him who would launch a new commodity on the market. One may even become so attached to one's shaving brush that one will not readily respond to an appeal to throw it away in favor of a new and efficient product which makes the brush unnecessary. Many a "conservative" still holds to his straight razor in preference to any innovation, for the same reason. If the desire to try the new cannot overcome the resistance offered by the desire for the familiar, other desires must be aroused in support of it, as, for example, the desire for conformity ("everybody is doing it") or in certain cases the desire to be different or exclusive ("we are offering to a few distinguished persons"). Just what combination of forces will be most effective can be determined only by study of the particular problem. Figure 22 shows the use of a very ingenious and subtle appeal for the purpose of establishing a new personal habit.

12. *Desire to collect things.* A collecting instinct is included in James' list of instincts and that of other writers also. Evidence of it has been found in the actions of animals which store their food in safe places for later use, and in certain curious cases, such as that of the woodrat, where wholly useless articles are sometimes collected. James found evidence of it too in the behavior of very young children who snatch at or beg for any objects that strike their attention. The following statements taken from James¹ show the part which he believes this instinct plays in the life of the adult: "In civilized life the impulse to own is usually checked by a variety of considerations, and only passes over into action under circumstances legitimated by habit and common consent, an additional example of the way in

¹James, W., *Principles of Psychology*, Vol II, p. 422.

which one instinctive tendency may be inhibited by others. A variety of the proprietary instinct is the impulse to form collections of the same sort of thing. It differs much in individuals, and shows in a striking way how instinct and habit interact. For, although a collection of any given thing—like postage stamps—need not be begun by any given person, yet the chances are that if accidentally it be begun by a person with the collecting instinct, it will probably be continued. The chief interest of the objects, in the collector's eyes, is that they are a collection, and that they are his. Rivalry, to be sure, inflames this, as it does every other passion, yet the objects of a collector's mania need not be necessarily such as are generally in demand."

The desire for ownership of property is sometimes attributed to this fundamental desire to collect things. Study of primitive peoples shows that desire for property may be entirely absent and this suggests that we are dealing with a complex desire built up out of a number of native and acquired desires with the latter in greater proportion. James, himself, mentions the support derived from rivalry and competition in many cases of acquisitiveness. Whether the desire be native or acquired, simple in character or very complex, it is well established in our present social system and it may be appealed to effectively under certain circumstances.

This completes our list of desires which are either native or have a large native component in them. But it cannot be called a complete inventory of human desires. We have already mentioned the part played by education in the modification of our natural characteristics. Although, as we have stated earlier, there is good ground for believing that all desires have a direct descent from the natural ones and that no entirely new ones ever appear, still some of them seem to bear so little resemblance to their source that they are often classified as acquired. Of these many are wide spread enough in their presence to deserve our consideration as the basis for advertising appeals. Some of the more important of these will be briefly described.

DESIRES AS BASES OF ADVERTISING APPEALS

1. *Desire for cleanliness.* Although one can see very clear evidence of cleanliness in many of the higher animals, such as the rabbit, dog, and cat, their behavior seems far removed from that required by custom in human society. Certainly the particular forms that cleanliness takes are the result of training. One can see habits of cleanliness developing in the growing child and can get some idea of the desires that are played upon in the training process. Thus, desire to escape from danger of disease, desire to please parents or teachers, desire to escape punishment, often the desire to obtain a promised reward lie behind clean hands and face, clean teeth and bodily cleanliness generally.

Once the desire has been established it may be satisfied by innumerable agencies, and advertising has played the largest part in determining which of these shall be used. It may be mentioned in passing also that commercial advertising as distinguished from public welfare advertising has probably done more than any other single agency in promoting cleanliness in the American people. The growth in the use of the toothbrush in the United States shows what persistent advertising can do in the creation of desires for new commodities for cleansing purposes.

2. *Desire for beauty.* Very closely related to this desire for cleanliness is the desire to be beautiful and attractive. This desire rests no doubt most directly upon the sex instinct, where the need to be attractive is important, but other contributory factors are to be found in the desire to excel, and the desire to conform to what others are doing. It is difficult to measure the actual influence of this desire in human behavior, because of the influence of the social sanctions. As will be pointed out in the following chapter, certain desires are considered as worthy and certain others as unworthy to be the driving forces of life. Usually the natural desires are felt to be the unworthy ones. Now beauty is one that should not have too much influence in



PORTRAIT OF LADY DIANA MANNERS IN HER WEDDING GOWN
BY SIR JAMES J. SHANKSON, R. A.

"Beauty is the touchstone of life. Without it we might as well live on the burnt-out Moon! So, for her own, for everybody's sake, it's every woman's duty to foster her beauty. She can effectively accomplish this loveliness by the Pond's Method, by using Pond's Two Creams."

Diana Manners

The Lady Diana Manners

—most beautiful woman of the English Aristocracy
praises this care of the skin



HE Lady Diana Manners is the most beautiful woman of her generation. Beauty is in her blood. Dorothy Vernon of Haddon Hall, famous beauty of Elizabethan days, was one of her ancestors. And her mother, the Duchess of Rutland, was a creature of rare loveliness when she was lady-in-waiting to the Queen.

Lady Diana's beauty is fabulous. The modelling of her face, the lift of her head, the dignity of her figure, declare her "the daughter of a hundred earls." But the glint of gold in her hair, the starry blueness of her eyes, these touch the heart-strings, being heaven sent.

And the lily's own petals are not more snowy-white, more satin-soft, than Lady Diana's skin. Sculptors and painters have begged her to sit for them, for, as a great English painter said, "she has the most beautiful complexion in the world."

No wonder she's the darling of the most exclusive Society of two continents and "England's best ambassador in making friends of Americans for England."

Lady Diana—whose creed is "Beauty

is the touchstone of life"—knows the need of keeping all her own beauty untouched by wind and cold, the harsh lights and make-up of the theatre, and the late hours of her exacting social life.

How Lady Diana Keeps Her Beauty

So she literally bathes her face and neck in cold cream and protects them with a delicate finish provided by a second cream.

For, like so many of the beautiful women of England, of America, Lady Diana Manners has found the Two Creams that keep the skin its exquisite best no matter how it's taxed.

Before retiring or after any unusual ex-

posure apply Pond's Cold Cream generously on the face and neck. Wipe it off with a soft cloth, taking away the day's accumulation of dust, dirt and powder. Finish with a dash of cold water or a rub with a bit of ice.

Before you powder, smooth over your newly cleansed face a delicate film of Pond's Vanishing Cream. It keeps your complexion fresh and protected for hours against any weather, gives it the softest finish imaginable and holds your powder with a velvety smoothness and surprisingly long.

Like Lady Diana Manners you can "effectively accomplish this loveliness." Begin to use Pond's Cold and Vanishing Creams. Soon you'll have a beautiful complexion, tax it though you may. The Pond's Extract Company.

FREE OFFER—Mail this coupon today for free tubes of these two famous creams and a little booklet telling what many famous beauties think of them.

THE POND'S EXTRACT COMPANY, Dept. B
135 Hudson Street, New York

Please send me free tubes of Pond's Cold and Vanishing Creams.

Name.....

Street.....

City.....State.....



EVERY SKIN NEEDS THESE TWO CREAMS

Figure 23: A complex appeal intended to stimulate the desire for beauty

shaping action, hence it may be rated entirely too low as a determining factor in one's own life. Appeals to beauty in the female are however being effectually used in advertising on every hand and huge sales are being built upon this appeal alone. Figure 23 is a good illustration of the beauty appeal.

3. *Desire for economy.* The particular form that desire for economy shall take in determining behavior depends very largely upon the class of society in which one moves and upon his financial status. But though the form of its manifestation may vary, it can usually be found and appealed to. Thus, one person of the writer's acquaintance carried no insurance on his home because if destroyed by fire he could easily replace it, but he considered it economy to carry accident and other insurance on his automobile in order to avoid the annoyance that would otherwise result in case of accident. Other persons will strive for economy of time. No money nor effort will be spared in the introduction of time-saving devices, although no particular benefit can be seen to accrue from the time thus saved. Economy in any one line of behavior may receive part of its motivation from love of family and desire to provide for it, desire to provide a reserve to protect oneself in case of sickness or accident, or the like. In other cases there seems to be no motive except the desire to collect or accumulate property. The forms that the economy appeal may take depend so much upon circumstances that it is scarcely worth while to attempt to list them.

4. *Desire to be hospitable.* It is difficult to find a basis for this desire in our native equipment. Indeed there are certain facts which make it seem likely that it is entirely the product of education coupled with specific environmental circumstances. It seems clear, for instance, that the difference in hospitality toward a stranger in an eastern city as compared with that of the pioneer upon the frontier, or even of a resident of a northern city as compared with the owner



© ARCO, 1924

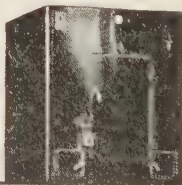
LOVELY—but will the guests stay?

THE architect and the decorator have done their best. The room is "correct," "in good taste."

But all these virtues are not enough. To have an atmosphere of welcome, a *subtle something else* is necessary. That subtle something is supplied by a modest servant in the cellar. His name is "IDEAL" and the warmth he sends through American Radiators changes houses into homes. It makes a mere room a *human* place in which to laugh and linger.

Wouldn't you like to trade your old heating plant for this IDEAL Boiler? You can. For IDEAL TYPE A pays back its cost in the fuel it saves. Write to the office below for the book that tells how.

IDEAL
TYPE A



IDEAL BOILERS
COAL • OIL • GAS
and **AMERICAN RADIATORS**
save fuel

AMERICAN RADIATOR COMPANY
Your Heating Contractor is our Distributor
Dept. 105, 1803 Elmwood Ave., Buffalo, N. Y.
Branches in all principal cities

Figure 24: Even the "furnace" is invested with dignity and satisfies the desire to be hospitable.

of a southern plantation is the product of circumstances and not of natural differences. Still, hospitality is recognized as a desirable trait and shows itself in some one of its numerous forms in the behavior of most people. No doubt, in terms of social usage, to be hospitable is far more desirable than to be beautiful. Any characteristic that gets support from social usage may be appealed to in the sale of the necessities and luxuries of life. Other desires lend strong support to this appeal, as, for example, the desire to be fashionable in the expression of one's hospitality or even to outdo one's neighbors in the quality of one's hospitality. The appeal to hospitality has recently been used in advertising a number of commodities, such as beds, boilers, automatic heat regulators, and so forth. The use of this appeal in the advertisement reproduced in Figure 24 lifts the "furnace" entirely out of its class and gives it a new and dignified status.

IV

THE RELATIVE STRENGTH OF DESIRES

Sources of error in measuring desires. Measuring range and strength of desires. How desires determine action. Desires aroused by advertising copy. Influence of type of copy. Reliability of measures of desire. Relative strength of soap appeals. Relative strength of breakfast-food appeals. Relative strength of tooth-paste appeals. Relative strength of desires in animals. Effect of appeals on attention. Distracting power of appeals.

OUR survey of the human desires has convinced us of their importance in arousing a response to advertising. We have shown, also, the importance of knowing the relative strength of these desires and the ones that may be appealed to most successfully in any given circumstance. As suggested in the previous chapter, there is usually more than one desire present at any one time so that our behavior must be considered as the result of a combination of forces, some of them working in a positive direction and some in a negative direction. About all that we can say as to the strength of any one desire is that in a given set of conditions it was that desire that determined the behavior. Thus, one may be driven by jealousy to outdo his neighbor in the purchase of an automobile, and yet at the same time be motivated by a desire to economize, to spend more money on the comforts of home, and so forth. If, however, the automobile is purchased, it may be concluded that the jealousy factor was stronger than the others at the moment. To continue with this illustration, can we assume that in every situation that arises the jealousy motive will be stronger than love of home and children? We cannot necessarily assume this, unless all the other conditions are duplicated. It may be, for example, that one's children are already well provided for and that the home is fairly comfortable. In such circumstances these two motives might be relatively weak and the jealousy motive

appear unusually strong. This illustration should serve to emphasize the very important fact that the effectiveness of a motive in any given set of circumstances depends not only upon the native strength of the desire but also upon the circumstances themselves.

There is still another source of error that we must consider here; namely, social pressure. It may be that under one set of circumstances the opinion of one's neighbors would deter one from acts of jealousy, for instance, so that this motive might seem to be weak when measured in terms of overt behavior while in reality it might be very strong. But if a situation arose later when the influence of social pressure was weaker for some reason, then jealousy might crop out in great strength.

In spite of the fact that these sources of error are present in the measurement of the strength of desires, and must be taken into account in interpreting the results of measurement, there is much value in a study of the relative value of the instincts. We have been taking our illustrations from individual cases, but let us suppose that we are interested in "mass appeal" rather than in individual salesmanship, and that we are going to draw our conclusions concerning the strength of motives from the combined results of a thousand individual cases. If in such a study as this, where a great variety of persons are included in a thousand different sets of circumstances, the jealousy motive stands out as strong, then we are safe in concluding that as a motive it is strong. With this preliminary caution as to the interpretation of results, let us examine the measurements that have been made.

MEASURING RANGE AND STRENGTH OF DESIRES

One of the commonest ways of evaluating desires is in terms of range or spread of their influence. By this criterion the sex desire and the desire for food and drink would probably occupy foremost positions. According to views cited

in the preceding chapter, every act of our lives reflects the influence of these primary motives. Next to this would probably stand the motives of self-protection.

The desires may also be evaluated in terms of their intensity or strength. Measured by this criterion, current opinion would place the same three desires at the top of the list. Such evaluations are, however, bound to be vague. They are not the result of accurate measurement, but rest upon opinion and are subject to the errors to which all opinions are liable. Much progress has been made in the development of laboratory technique for the measurement of the various motives, such as fear and aggressiveness in human beings and sex and hunger motives in animals. The determination of the relative strength of motives by these experimental methods must await the perfection of tests for each specific motive. Then it will be no difficult matter to apply these measures to determine the relative strength of the desires that may be aroused by advertising. In the meantime, rougher measures are being employed and the tentative results thus obtained appear to have some practical significance. A few of these methods and the results obtained from their use will be reviewed.

HOW DESIRES DETERMINE ACTION

A very simple method of measuring the relative strength of the different desires is that used by Starch,¹ in which he presented a list of 44 motives to a group of 74 men and women with the following instructions: "Consider the strength and importance of these motives or incentives to action from the standpoint of your own personal life and behavior as a whole. Ask yourself in connection with each one how important it is in determining your own actions from day to day. Write 10 after the very strongest motives, and a number between 0 and 10 after the others, according to their relative strength or importance." The list of mo-

¹Starch, Daniel, *Principles of Advertising*, pp. 152 ff. A. W. Shaw Company, Chicago, 1923.

TABLE I
THE RELATIVE STRENGTH OF MOTIVES*

Motive	Value	Motive	Value
Appetite—hunger	9.2	Respect for Deity	7.1
Love of offspring	9.1	Sympathy for others	7.0
Health	9.0	Protection of others	7.0
Sex attraction	8.9	Domesticity	7.0
Parental affection	8.9	Social distinction	6.9
Ambition	8.6	Devotion to others	6.8
Pleasure	8.6	Hospitality	6.6
Bodily comfort	8.4	Warmth	6.5
Possession	8.4	Imitation	6.5
Approval by others	8.0	Courtesy	6.5
Gregariousness	7.9	Play—sport	6.5
Taste	7.8	Managing others	6.4
Personal appearance	7.8	Coolness	6.2
Safety	7.8	Fear—caution	6.2
Cleanliness	7.7	Physical activity	6.0
Rest—sleep	7.7	Manipulation	6.0
Home comfort	7.5	Construction	6.0
Economy	7.5	Style	5.8
Curiosity	7.5	Humor	5.8
Efficiency	7.3	Amusement	5.8
Competition	7.3	Shyness	4.2
Cooperation	7.1	Teasing	2.6

*Starch.

tives together with the average position assigned to them is given in Table I. The larger scores mean the stronger motives. For the present the table may be used merely to indicate the relative value of these motives with no critical examination of the figures. In the next chapter the method of giving one's personal reaction in such situations as this and the statistical procedures that have grown up around the method will be discussed in some detail.

There is one source of error that is especially likely to creep into such studies as this; namely, that one's idea of what motives are proper and commendable is likely to govern his choices rather than their real potency. This is a further illustration of social pressure or repression, as the Freudians call it. Still, there is no particular evidence of such an error in this table, for the sex motive stands high, and that is the one which is usually most affected by social pressure. It is to be noted that the motives that we have said are based on

as insistent bodily need—namely, hunger and thirst, sex, and bodily comfort—stand at the top of the table, along with those that have great biological significance—namely, health, love of offspring, parental affection—and further, that all but two of the motives in the list, shyness and teasing, fall in the upper half of our scale from 0 to 10. Nineteen of them are in the highest quarter of the scale. This means that all the motives but two are at least strong enough to justify their use when other conditions warrant.

DESIRES AROUSED BY ADVERTISING COPY

A somewhat similar study was made by Hollingworth¹ in which he used 50 appeals by way of which he could measure the strength of the desires that they elicited. Forty persons—20 men and 20 women—served as subjects in this experiment. The appeals were presented, each on a separate card, in the form of advertising copy, although no particular commodity was named in the copy. Instead of the name of a commodity a series of symbols was used in order to avoid the influence of particular brands of goods on the strength of the desire. In order to emphasize the specific character and direction of the appeal, and to guarantee as far as possible the same attitude toward the appeals in all persons, each card bore a single word or pair of words indicating the appeal very directly. Each person taking part in the experiment was instructed to “read all the advertisements through and arrange them. . . . in an order of merit, according to *their persuasiveness*, that is, according to the degree in which they make you *desire* the article or *convince* you of its merit.” A sample of these 50 pieces of copy follows:

2B7,—*Family Affection*: A final day must come to every man, and no one wants to see his children left dependent on mere accident. You owe a duty of provision and foresight to your

¹Hollingworth, H. L., “Judgments of Persuasiveness,” *Psychological Review*, 1911, pp. 234 ff.

family. A 2B7 will guarantee this comfort and security when you are gone.

Table 2 gives the results of this study for men and women separately. The terms used in this table are indicative only of the general character of the appeal. The first column of figures gives the numbers representing the order of importance of the appeals for men, the second column gives the same for women, and the third column gives the order for men and women together. Thus, for men and women the appeals to "health" and "cleanliness" stand high while "beautifying" stands low. Although there are some differences between men and women in their responses to these appeals, the relationship is very close. Those which stand high for the one sex tend to stand high also for the other. Certain of the sex differences that appear in the table cannot be taken entirely at their face value. For example, the appeal to family affection just quoted is one directed primarily to men, as indicated by the words "man" and "his." Hence, the wording in which the parental affection appeal is carried may be responsible for the sex difference, rather than a genuine difference in motivation.

INFLUENCE OF TYPE OF COPY

The influence of the copy upon the standing of the appeal may be illustrated in one or two other cases. Thus, the "sympathy" appeal is presented merely as sympathy toward the suffering of dumb animals.

2Q7,—*Sympathy*: Kindness is the first law of humanity. Much of the pain and discomfort inflicted on dumb animals could be relieved by using 2Q7. Be humane to your beast; use 2Q7.

A less specific appeal, or one which referred to human beings rather than to animals, might possibly have a different standing. Still, reference to the table of results taken from Starch (Table 1) shows that sympathy falls in about the middle of the list.

The position assigned to "beauty" may also be due in part to the words used to present it:

1U4,—Beauty: Are you as pretty as you might be? No one wants to be homely. The continued use of *1U4* removes the undesirable blemish, beautifies the complexion, renders the form attractive, and gives charm to the figure.

TABLE 2
RELATIVE STRENGTH OF APPEALS*

Character of Appeal	Men	Women	Both	Character of Appeal	Men	Women	Both
Health	1	2	1	Imitation	14	19	16
Cleanliness	2	3	2	Elegance	12	22	17
Scientific	5	5	3	Courtesy	16	17	18
Time saved	10	1	4	Economy	17	18	19
Appetizing	3	8	5	Affirmation	20	20	20
Efficiency	9	4	6	Sport	18	21	21
Safety	4	11	7	Hospitality	21	16	22
Durability	11	6	8	Substitutes	28	14	23
Quality	13	7	9.5	Clan feeling	25	24	24
Modernity	8	12	9.5	Nobby	23	28	25
Family affection	6	15	11	Recommendation	24	29	26
Reputation	15	13	12	Social superiority	27	25	27
Guaranty	19	9	13	Imported	26	27	28
Sympathy	7	23	14	Beautifying	29	26	29
Medicinal	22	10	15				

*Hollingworth.

This experiment furnished evidence that the responses given by these people were not merely fleeting preferences that would change readily from time to time, but represented permanent choice. When the experiment was repeated on a part of the group one month later the relationship between the two sets of results was extremely close.

One of the most significant results of this study appeared in the relationship between the consensus of opinion of 5 professional advertising men as compared with that of the 40 people who may be taken as a sample of the buying public. The investigator drew the conclusion that the judgment of the professional advertisement writer is not representative of the judgment of his audience and that he tends to minimize the differences between appeals that really have a differential effect on the public. Other studies have shown also that to find the probable effect of any device on the public the safest way is to measure the effect on a sampling of that public.

It will be noted that this list of *appeals* does not correspond with the list of *motives* measured by Starch and presented in Table 1. It should be noted also that Starch asked his subjects to evaluate the motives as forces in their lives, while Hollingworth put his subjects in the position of potential purchasers of goods. Still, certain resemblances in the results of the two studies are apparent, as, for example, in the standing of the desire for food, for protection, and the love of offspring.

RELIABILITY OF MEASURES OF DESIRE

This experiment of Hollingworth was repeated by Adams¹ on 40 men and 20 women with exactly the same material and with the same instructions to the subjects. The two experiments show a considerable resemblance. Those traits which we have found to stand high in the one experiment stand in the upper third of the appeals in the other experiment. Expressed in terms of coefficients of correlation (which will be demonstrated in the following chapter) the relation between the standing of the appeals in the two experiments for men was +80 and for women was +62. For men and women taken together, the relationship between the two experiments is indicated by the coefficient of correlation of +70. The variations which did occur between these two experiments are just about what is to be expected when two distinct groups of people under many changing conditions are tested and their results compared. Such comparisons are valuable because they give an indication as to just how definitely fixed the position of any one appeal in the series really is.

In order to offset as much as possible the influence of the form of the copy upon the standing of the appeal, the 50 pieces of copy used by Hollingworth have been grouped according to the similarity of their appeals into 12 classes. The relative strength of these classes was then determined

¹Adams, H. F., *Advertising and Its Mental Laws*, 1920, pp. 130 ff.

on the basis of the 100 subjects used by these two investigators. The grouping into classes is somewhat arbitrary and is based more upon the copy itself than upon its title. The number of pieces of copy making up the different classes of appeals varies from 1 to 12 so that their relative reliability varies considerably—the smaller the number of pieces of copy the less the reliability. These classes and their relative value are to be found in Table 3, where 1 means the strongest and 12 means the weakest appeal.

TABLE 3
RELATIVE STRENGTH OF APPEALS*

Appeal	Order	Appeal	Order
Appetite	1	Recommendation	7
Family affection	2	Activity—sport	8
Protection	3	Conformity—fashion	9
Sympathy	4	Superiority—ambition	10
Health	5	Group spirit	11
Economy	6	Beauty and attractiveness ..	12

*Combined results of Hollingworth and Adams.

RELATIVE STRENGTH OF SOAP APPEALS

In addition to these three studies of motives and appeals in this abstract fashion, a number of studies of appeals for a specific article have been made. It will be useful to examine some of these and to compare the standing of the several appeals when measured in the various ways. In a study made by the writer, 15 soap appeals were examined in order to determine their relative strength. No attempt was made in this case to present natural motives, but rather to bring together all the appeals that have been used in selling soap. Each appeal was printed on a card and was expressed in a sentence beginning with "I want" in order to elicit a personal reaction from each subject. Several samples of these appeals follow:

I want something in a toilet soap that merely makes washing of face and hands pleasant and refreshing without harm to my complexion.

I want something in a toilet soap that will give natural health through mild, delicate cleansing of pores.

I want something in a toilet soap that will remove wrinkles caused by exposure or neglect.

These 15 appeals were arranged in an order of strength by 117 women and 89 men, representing educated people from several sections of the United States. Table 4 gives the results of this study, for men and women separately. Value 1 means greatest strength, and 15 the least. The nature of the appeal is indicated in the table by a single phrase.

TABLE 4
RELATIVE STRENGTH OF SOAP APPEALS*

Appeal	Men	Women	Appeal	Men	Women
Natural health	1	1	Prevents coarseness of		
Pleasant and refreshing	2	3	skin	9.5	7
Mild and pure	3	2	Floral scent	9.5	12.5
Makes rich suds	4	6	Cleans pores	11	5
Smooth feeling	5	10	Overcomes redness . .	12	10
Overcomes roughness . .	6	4	Transparent soap . . .	13	14
Faint agreeable scent . .	7	12.5	Reduces wrinkles . . .	14	15
Cures facial blemishes . .	8	8	Removes wrinkles . . .	15	10

*Poffenberger.

E. K. Strong¹ tested 20 soap appeals in a somewhat similar fashion upon 23 men and 27 women. A sample of these appeals follows. (Each was typewritten on a separate card.)

A good natural complexion and a fair, soft skin are necessary essentials of beauty.

Toilet Soap Number 1 is the most perfect beautifying agent known, possessing those special and unique qualities which render the skin pure, clean, and of exquisite softness.

More than all the cosmetics in the world, it is the special beautifier of the complexion.

Taking into account the surety with which the positions of the 20 appeals are established by the 50 judges, Strong was able to divide them into eight groups, as on the following page.

¹"Relative Merits of Advertisements," *Archives of Psychology*, Number 17.

1. Purity and cleanliness
2. Pleasant (does not irritate the skin)
3. Health
 - 4. { Expensive
 - Shampoo and bath
 - Recommendation of doctor
 - Guaranty
 - Parental affection
5. { Reputation of firm
- Pleasant and stimulating
- Sample free
- Beauty
6. { Economy
- Recommendation of great men (2)
- Sold everywhere
7. { Superiority
- Large factory
8. Souvenir with purchase

That the way in which the copy is written has much to do with the standing of the appeal is evident when we compare the two appeals indicated by the investigator as "pleasant," the one standing second, and the other appearing in group 5. They are reproduced below:

Soaps containing strong alkali, coloring matter, and adulterants will dry and irritate the skin and destroy its softness.

Toilet Soap Number 6 has nothing to hide, no dyes to deceive, no high perfumes to delude the sense of smell.

Its use leaves the hand with none of those "drawn feelings," but soft, and moist, and clean, as after the use of a cold cream.

They who can take an ice-cold bath successfully know the fine, cheering afterglow which follows it.

But that splendid influence on the skin is impossible to many people whose heart action will not permit it.

There is, however, a safe substitute for the coldness in the water. That substitute is X, the chief ingredient of Toilet Soap Number 17. X possesses some wonderful characteristics. Its first action is Anodyne—bringing "Therapeutic Rest" to the skin. Its next action is control of Hyperaemia—or control of blood in the small vessels of the skin. Its third action is antiseptic, destroy-

ing all Bacteria in contact with the skin. Its fourth action is that of a powerful Healer and nutrient, replacing affected tissue with sound flesh and fibers while feeding the skin through its pores.

Can you conceive a finer Toilet Soap?

It is extremely important to observe the influence of the manner in which the bare appeal is expressed. Given a fundamental idea, such as "pleasantness," the appeal may be very strong or very weak. All the devices at the command of the advertiser need to be brought to bear upon the question of how the appeal shall be presented. Indeed one copywriter may take the poorest appeal and make it more effective than the strongest in the hands of another copywriter.

RELATIVE STRENGTH OF BREAKFAST-FOOD APPEALS

Strong also made a study of 20 appeals used in advertising breakfast food. The wording of these was taken largely from actual advertisements. A sample of these appeals follows:

Prepared in clean kitchens, by clean people, with clean equipment. Guaranteed under the Pure Food Law of June 30, 1906. Thousands of visitors annually witness its preparation in our model kitchens.

The appeals may be grouped into eight classes according to their strength, the first being the strongest appeal.

1. Cleanliness
2. Health (food value)
3. { Appetite (2)
Ambition
Health (2)
4. { Health (2)
Reputation of firm
Recommendation
Economy
5. { Sold everywhere
Method of manufacture

- 6. { Appetite (2)
Group spirit
- 7. { Recommendation
Magnificent factory
- 8. Souvenir

The influence of the copy accounts for the appearance of the health appeal in groups 2, 3, and 4, and the recommendation appeal in groups 4 and 7.

RELATIVE STRENGTH OF TOOTH-PASTE APPEALS

Franken¹ has studied the relative strength of 24 tooth-paste appeals. Each was presented on a separate printed slip. The appeal which stood in position 7 is presented as an illustration of the material used in this experiment.

Persons of fashion and refinement use ———, the dentifrice of quality. It belongs with all who exercise more than ordinary care in manners and appearance, and who choose their purchases with equal care. That is why they put ——— on the shopping list.

His results are given below, where the appeals have been grouped under eight heads:

Appeals	Average Standing	Appeals	Average Standing
1. Clean and healthful	9.0	5. Recommendation	12
2. Protection	11.3	6. Scientific	14
3. Safe	11.0	7. Social superiority	16.5
4. Pleasant	11.0	8. Economy	20.4

A survey of these appeals, as applied to the particular commodities—soap, breakfast food, and tooth-paste—shows that the appeals to health, cleanliness, and protection from danger stand very high, just as they do in the table of abstract appeals (see Table 2). Hollingworth, in presenting his original study, suggested that the table of abstract appeals might be used for practical purposes by choosing that appeal which stands highest in the abstract table and

¹Adapted from Starch, *Principles of Advertising*, p. 290.

which will be suitable for the particular commodity. Of course, suitability depends upon other factors than mere strength of the appeal, such as the extent to which the appeal has been previously used for advertising similar products. For the sake of novelty and uniqueness it may be advisable to choose an appeal which lacks something in strength but gains in novelty. The ingenuity of the writer of the copy can then do much to make this appeal effective. Still, in spite of the great degree of power in the hands of the one who writes the advertisement, it would seem to be a sensible rule not to discard all knowledge of the relative strength of appeals, but to begin work with a motive that, in its bare form, will be as powerful as possible. There is no need to handicap the copywriter in order that he may demonstrate his power, but rather he should be given all possible advantage at the start.

RELATIVE STRENGTH OF DESIRES IN ANIMALS

In addition to these methods of evaluating appeals in terms of opinions or estimates, there have been attempts made recently to get objective measures of them. One very interesting study was made upon the relative influence of different appeals in the case of white rats¹. We need not at this point decide whether we can infer the relative strength of human appeals from the relative strength of the same in animals. It will be sufficient to note the suggestive methods of measurement and compare the results of objective measurement on animals with our estimates obtained from humans. The relative strengths of the hunger appeal, the sex appeal, the maternal appeal, and the comfort appeal (arousing the desire to escape from discomfort) were measured by determining whether the animal would submit to a standardized electric shock in order to satisfy the desire aroused. For example, when a hungry rat could get

¹Moss, F. A., "Study of Animal Desires," *Journal of Experimental Psychology*, 1924, VII, pp. 165 ff.

food only by crossing a path charged with a given amount of electricity, he would take the punishment and go for the food. When a male rat could get to a female only by crossing the path charged as above, he would not take the punishment but would refrain from satisfying his desire. In experiments where animals were allowed to choose directly between satisfying their hunger or the sex appeal, the former was chosen. Taking the results from the experiment as a whole the relative strengths of the appeals investigated were:

Hunger	Sex	Maternal	Comfort
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Simmons¹, using a method somewhat similar to that just described, studied the effects of various incentives upon rate of learning in animals. She used food such as bread and milk and sunflower seed; escape from the maze in which rate of learning was measured; return to the home cage; sex, and the litter. Bread and milk, as a food, served as a standard drive against which the other motives were measured. She found that food (either singly or in combination with return home), sex, and litter were much more effective than escape or return home. These general results are not surprising. The four effective incentives arouse the motives of hunger, sex, and maternal impulse, which are found by other measures to be strong motives.

EFFECT OF APPEALS ON ATTENTION

An experiment resembling somewhat the one just described was performed on human subjects by Nixon², and although the appeals examined were quite different, the method seems to offer possibilities for evaluating objectively many of the appeals important in advertising work. His plan consisted in suddenly exposing to a subject two advertisements placed side by side and containing different

¹Simmons, R., "The Relative Effectiveness of Certain Incentives in Animal Learning," *Comparative Psychology Monographs*, 1924, II. No. 7.

²Nixon, H. K., "Attention and Interest in Advertising," *Archives of Psychology*, Number 72.

appeals and noting in detail where the attention of the subject was directed during a 30-second period. The direction of attention was measured in terms of eye movements—the eyes would be drawn toward that appeal which had the greater potency for the subject at the time. According to the investigator the assumptions on which the method is based are:

“That in the presence of an interest-arousing situation the object fixated visually may be taken as the object of attention, and second, that of two interest-provoking situations presented simultaneously the one eliciting the longer periods of visual fixation over a given period of time may be taken to possess the greater attention value.” One of the outstanding results of this study is the greater potency of advertisements containing illustrations of people as compared with those containing merely objects, and another is the relatively slight power of color to control the attention over a period of 30 seconds, when competing with uncolored advertisements.

DISTRACTING POWER OF APPEALS

Another method which is suggestive in its possibilities has been used by Moore¹ for measuring the strength of such natural drives as fear, sex, and anger. His procedure consists in finding the extent to which a given drive, such as fear, will (when aroused by an appropriate stimulus) distract one from a standardized task like adding figures. When measured in this fashion he finds that the order of strength of the three motives tested was fear, anger, sex. When one examines the situations presented for arousing fear, anger, and sex desire, it seems fairly clear that they differed in potency, the sex situation being extremely weak compared with the fear situation, for example. The investigator's purpose did not, however, require that the situations be equated for strength. The study is mentioned here because of the

¹Moore, H. T., *American Journal of Psychology*, 1917, XXVIII, pp. 300 ff.

possible applicability of this "Distraction Method" as a means of measuring the strength of desires aroused by actual advertising appeals.

There is one final bit of evidence that might be cited concerning the relative strength of appeals. At the first Advertising Exposition held in New York City in the fall of 1923 about 100 pieces of advertising copy were displayed and spectators were requested to choose the ones that appeared to them to be the best. Naturally the advertisements were not originally chosen to furnish a measure of appeals, but one of the outstanding results that appeared from a study of the data was that the *appetite* appeal stood highest. Such a voting contest, to be described in detail in a later chapter, offers a means of measuring appeals that should not be neglected.

V

STATISTICAL METHODS OF MEASURING THE STRENGTH OF APPEALS

The order of merit method. Accidental and constant errors of judgment. The use of the average. The use of the median. Translation of averages or medians into an order. The validity of a consensus of opinion. Measuring amounts of difference. The use of the average deviation. What to do with incomplete orders. The measurement of relationship. When correlation coefficients should be used. Modifications of order of merit method. Scale of values method. Group order method. Preliminary group method. The voting method. The method of paired comparisons.

BRIEF references have been made to the methods by which the relative strengths of appeals could be determined. What needs to be measured is the reaction that people make to the appeals, the degree to which they like them, are convinced by them, or would be led to buy as a result of them. Now, these are matters which cannot be measured directly in physical terms but can be dealt with by the statistical methods devised in the psychological laboratory for just such purposes. One of these methods and the one most generally used is known as the "Order of Merit Method." Dr. J. McKeen Cattell in 1902 first used it in making a study of the relative brightness of 200 shades of gray. Since that time it has been used by him and by others for measuring the eminence of scientific men, the merit of literary productions, the strength of beliefs, the strength of character traits in different individuals, the quality of specimens of handwriting and drawing, and the effectiveness of advertisements¹. In fact, the order of merit method has gained a permanent place among the scientific measuring methods in use today.

¹A good summary of the early use of this method for measuring the value of advertisements will be found in "The Relative Merit of Advertisements" by E. K. Strong, *Archives of Psychology*, No. 17.

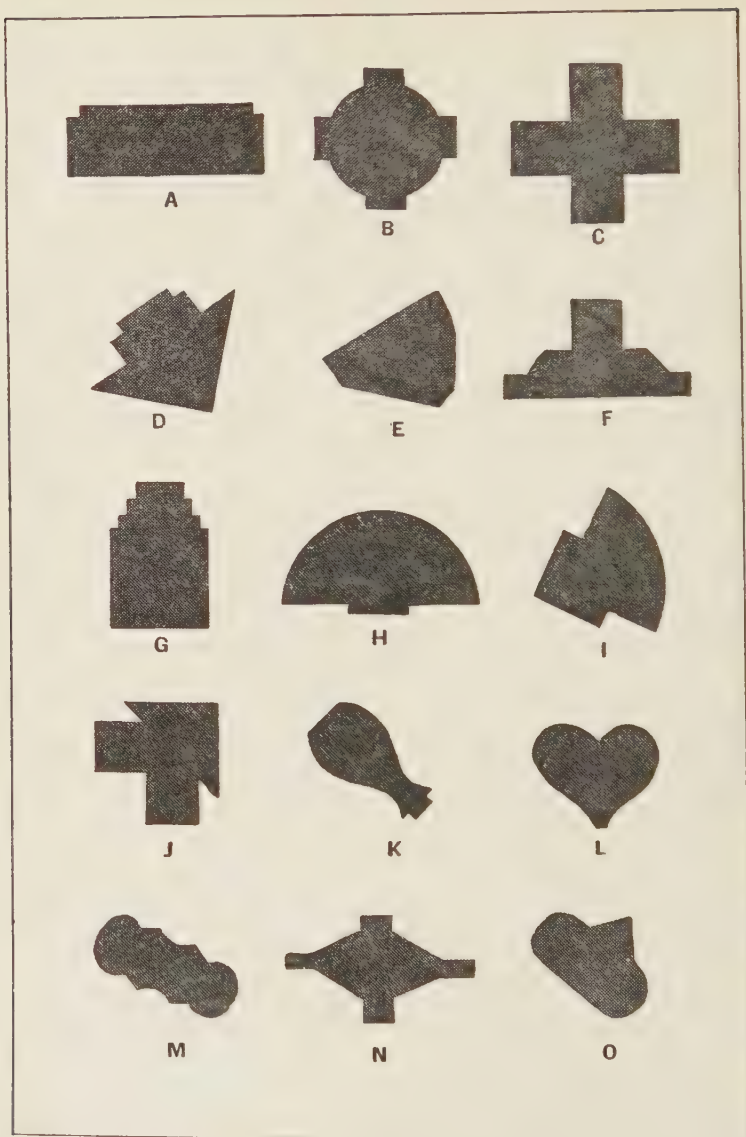


Figure 25: When these forms are arranged in order according to their area each will differ from its neighbor by 5%.

THE ORDER OF MERIT METHOD

For those not acquainted with the order of merit method it may be well to demonstrate it first with material which can be objectively measured. The results obtained by this method may then be checked against the objective values and their validity determined. Of course, the method could not be recommended as a substitute for objective measures, but to be used only where objective methods are not applicable. I have chosen for this demonstration a set of geometrical figures or black areas so irregular in shape that no person can readily determine their physical size by the ordinary objective means such as superposition. In fact, in evaluating the area of these objects one is placed in very much the same position as if he were, let us say, judging the beauty of picture post-cards. He can give only his general impression; he "feels" that one is larger than another or he makes a "judgment" about them. Now they have been so constructed that their actual area is known. Each one differs from the one next in size by 5%; that is, the next to the largest is 5% smaller than the largest, the third in size is 5% smaller than the second, and so on. These areas are represented in much reduced size in Figure 25. As originally used there were 15 areas, each painted upon a separate card 5 by 8 inches in size. In our study only the first 10 will be considered. In order of size as objectively determined they are, beginning with the largest, C, H, A, B, G, I, D, J, F, E.¹

The persons who took part in the experiment were asked to arrange these 10 objects in an order according to size, putting the largest first, the smallest one last, and the others in their proper places between these two extremes. The orders obtained from 25 such judges are presented in Table 5. In the column at the left are the letters indicating the different areas. Then there appear in the succeeding columns the numbers indicating the positions into which the

¹These areas were measured by means of a planimeter.

TABLE 5
ESTIMATES OF RELATIVE SIZE OF OBJECTS BY 25 JUDGES

Object	JUDGE NUMBER																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
A	5	2	4	3	2	2	9	3	7	6	8	6	6	6	3	6	7	4	2	6	4	5	5	5	2
B	3	3	3	4	5	3	6	4	2	2	1	2	2	1	5	1	8	6	4	4	5	2	2	1	4
C	1	1	1	1	1	5	1	2	1	1	2	3	1	2	1	4	1	1	1	1	1	1	1	3	1
D	2	9	5	6	8	9	3	5	6	5	6	4	4	3	6	3	4	7	3	3	7	6	6	8	7
E	6	8	10	10	9	8	10	9	10	10	9	8	10	10	10	10	10	10	10	10	10	9	9	10	10
F	9	10	7	7	10	10	8	8	9	9	10	10	9	9	9	9	2	5	5	8	9	10	10	6	9
G	7	4	6	5	3	1	2	6	3	3	3	9	3	4	4	2	6	3	9	7	2	4	3	4	5
H	4	5	2	2	4	6	4	1	8	4	4	1	7	5	2	5	9	2	7	2	3	3	4	2	3
I	8	7	8	9	6	4	7	7	5	7	5	7	8	8	8	8	5	9	6	5	6	7	7	7	6
J	10	6	9	8	7	7	5	10	4	8	7	5	5	7	7	7	3	8	8	9	8	8	8	9	8

different judges put the objects. Thus, the first judge put C in the first position as the largest, D in the second position as next to the largest, and so on, until J was put tenth as the smallest.

If we examine the individual judgments we find that no two of the persons agreed exactly as to the order of size of these objects and, furthermore, that no person's arrangement agreed exactly with the order as objectively determined. It is clear then that the judgment of no one person in the group can be entirely relied upon, although some of them may be better judges than others. We will return to this question in a moment.

ACCIDENTAL AND CONSTANT ERRORS OF JUDGMENT

Why should one expect to obtain from a series of judgments, none of which is right, a consensus of opinion which will be right or nearly so? In judgments such as one is called upon to make in the use of the method being described in this chapter, the errors that any one person makes are very likely to be what are called *chance or accidental errors*. That is, if he is judging objects for size, let us say, he is as likely to judge them too big as too little. The same may be said of each judge, so that if a sufficient number of judgments is obtained these chance errors cancel each other out and the group judgment is therefore more nearly correct than the individual judgments that compose it. But there are occasions in which the errors are not of this accidental sort but are what are called "*constant errors*." That is, something other than chance determines the direction in which the error shall go. Now we have just such a case in our set of objects. We have chance errors due to carelessness in judging, and so forth, but we also have a constant error due to the visual illusion factor which makes certain objects seem distorted in size to all or most all observers. Increasing the number of judges in such a case only exaggerates the difference between the objective and the sub-

jective measures. The investigator will have to decide whether or not a constant error, if present, tends to vitiate his conclusions. In the case of these objects judged for size, the constant error which appears when the results are checked against objective measures is part of what one wants to measure—namely, the consensus of opinion—and hence must not be eliminated. But let us suppose, to take a very crude case, that a series of advertisements is being judged for artistic value, and one of the specimens has become slightly damaged from handling. This introduces a constant error into the judgments which will vitiate the results, hence it should be eliminated. One who is studying advertising problems must be ever on the watch for such constant errors which are likely to creep into the situation because of its complexity and because of the difficulty of controlling or accounting for all the factors involved.

THE USE OF THE AVERAGE

The consensus of judgment or opinion of all the persons may be determined in several ways. The measures most commonly used for this purpose are the average and the median. We determine the average position assigned to any one of the objects by adding together all the positions assigned to it by the 25 persons and dividing by their number, 25. Table 6 shows, in the first column, the letters

TABLE 6
MEASURES OF CONSENSUS OF OPINION

Object	Sum	Average	Order	Median	Order
A	118	4.7	5	5	5
B	83	3.3	2	3	2
C	39	1.6	1	1	1
D	135	5.4	6	6	6
E	235	9.4	10	10	10
F	207	8.3	9	9	9
G	108	4.3	4	4	3.5
H	99	4.0	3	4	3.5
I	170	6.8	7	7	7
J	181	7.2	8	8	8

designating the objects, in the second column, the sums of positions assigned to each object, in the third column, the average position assigned to each specimen, and in the fourth column, the order of the specimens according to size as thus determined, where the smaller the number the larger the size of the object.

THE USE OF THE MEDIAN

The median is in some respects a simpler measure of consensus of opinion than the average. It is found by arranging all the positions assigned to any one specimen in the order of their size and taking the middle one, if there happens to be an unequal number of judges¹. In the case of our 10 areas we have 25 positions assigned to each specimen, so the middle one would be the thirteenth. If we take the positions assigned to specimen A, the thirteenth happens to be position 5, which is therefore the median. When the number of cases (judges in our illustrations) is an even number, then the median is the value just between the two halves. Thus, if we omitted the twenty-fifth judge from our group, the median would be

¹There are certain circumstances under which the median becomes more difficult to compute. In our illustration we are putting our specimens into a series of positions, 1, 2, 3, and so forth, and we may think of 1 as being just 1, and of 2 as being just 2, and so forth. But sometimes in dealing with what are called continuous series of numbers as distinguished from a discrete series, the number 1 may mean any one of three things, namely, 0 to 1, .5 to 1.5, or 1 to 2. The median will differ according to which one of these meanings is chosen. For example, look at the positions assigned to specimen A. They are presented below in the form of a distribution table, which shows the number of times A is put in each position from 1 to 10.

Positions	1	2	3	4	5	6	7	8	9	10
Number of Cases	0	5	3	3	4	6	2	1	1	0

Now if we count 13 cases beginning at position 1, we come to position 5 where there are 4 cases. Two of these 4 are needed to make the 13. That is to say, we must go half-way through position 5 to get our 13 cases. If 5 means from 4 to 5, then our median value will be 4.5, if 5 means 4.5 to 5.5, then our median will be 5; and if 5 means from 5 to 6, then our median will be 5.5. In the case of median values obtained by the order of merit method it is sufficiently accurate to use the simpler method of calculation described above.

midway between the twelfth and the thirteenth cases, or 5.

The median position for each specimen is given in column 5, (Table 6) and from that column we derive the order of size shown in column 6. The principal difference between the average and the median method of computing the consensus of opinion is that the median method gives equal weight to all judgments regardless of the degree to which they vary, while the average is influenced more by extreme and erratic judgments, or those which vary greatly from the general run of judgments. In this set of measurements there is practically no difference between the average and the median, the order of size determined by the two measures being the same.

TRANSLATION OF AVERAGES OR MEDIANS INTO AN ORDER

Notice that the median value is the same for both G and H and that they should fall into positions 3 and 4. In translating these median values into an order, it is necessary to adopt some device which shall deal properly with these identical values. The method commonly used is to give an intermediate value to each. Thus, instead of calling one of them 3 and the other 4, or calling both 3 or both 4, we call them both 3.5 as indicated in column 6. The next larger value, A, would then be given position 5, since 3 and 4 have already been used. In case there should be three specimens with the same average or median value, the same procedure is followed. For example, if there were three cases having a value of four, they should occupy positions 3, 4, and 5, but they are all given position 4. The next larger value would then be given position 6, since 3, 4, and 5 have been used.

THE VALIDITY OF A CONSENSUS OF OPINION

The order determined by the consensus of opinion does not entirely agree with the objective order. It will be noticed that the largest specimen, C, and the smallest three,



Figure 26: The apparent size of objects depends somewhat upon their shape.

J, F, and E, are correctly placed while in the case of D, G, H, and I there is an error of only one position. In two cases, A and B, there is an error of two positions, A being judged too small, and B being judged too large. If we examine these last two errors, we find that we are dealing with what is known as a visual illusion, that is, B actually looks larger than it is, and A looks smaller than it is, because of its shape.¹ We might then legitimately raise the question as to which measurement of these areas is the correct one, the objective measure made by means of the planimeter or the consensus of opinion of the 25 judges. The answer must be that it depends entirely on our point of view. If we are interested primarily in the way objects appear to people, upon the impression they make, then the consensus of opinion gives us a more reliable measure for our purpose. Let us take a concrete case. We want to choose a container for a canned food that shall look as large as possible to the consumer. We would not be justified in simply choosing that can with the largest volume. It is quite likely that one having a smaller volume, but of a different shape, would seem bigger. The proper shape and size of container would have to be chosen by getting the consensus of opinion of a sampling of consumers, subject as they are to visual illusions of size, rather than by physical measures of volume. In exactly the same sense it would appear that, if the value of any advertisement or commodity

¹See Ladd and Woodworth, *Physiological Psychology*, 1911, p. 447.

depends for its effect on the opinion of the people, this value can be measured most adequately in terms of such opinion.

In Figure 26 the flat can *I* looked larger than the tall can *F*, although both were of 10-ounce capacity. These containers were used in an experiment conducted by Franken¹ to determine the proper shape of a container for canned food in order to get the greatest apparent size. The flat shape was adopted on the basis of the size test, although it was somewhat more costly to manufacture.

MEASURING AMOUNT OF DIFFERENCE

We can determine by means of this order of merit method not only the relative order or relative positions of a series of specimens, but we can also learn something about the degree of difference among the specimens. For example, if we go back to our figures in Table 6 and examine the averages we find that in some cases the difference between one average and the next one to it in size is rather large, while in another case it may be very small. Table 7 presents these data so that the specimens are arranged according to size with the smallest average (representing the largest object) first.

TABLE 7
AVERAGE VALUES ASSIGNED TO THE PHYSICAL OBJECTS

Object	Average	Deviation Average
C	1.6	0.8
B	3.3	1.5
H	4.0	1.6
G	4.3	1.7
A	4.7	1.7
D	5.4	1.7
I	6.8	1.1
J	7.2	1.4
F	8.3	1.3
E	9.4	0.8

¹Franken, R. B., *The American Perfumer and Essential Oil Review*, December, 1921.

Thus we see that specimens C and E, the largest and the smallest, differ quite a bit from their nearest neighbors, while H, G, and A do not differ very much from each other. These indications of degree of difference are lost when the measures of consensus of opinion are translated into an order. Hence it is often advisable to examine the averages or medians for such evidence.

THE USE OF THE AVERAGE DEVIATION

It will be obvious to the reader also that another measure of degree of difference or validity of difference is possible. Since we are dealing in Table 7 with a consensus of opinion, it might be well to know something about the individual opinions which go to make up this consensus. If there is close agreement among the judges as to the position specimen A should have, while there is great diversity of opinion about the position that specimen G should have, some measure of this difference would be important. The consensus of opinion in the form of the average or median does not show it. Such a measure is the *average deviation*, which is simply the average amount by which the individual judgments vary from the average judgment. It is determined by finding the difference between the average and each individual judgment, taking the sum of these differences regardless of whether they are plus or minus differences, and dividing by the number of judges. The last column in Table 7 gives the average deviation derived from the data in Table 5. These average deviations show us that as far as the individual judgments are concerned the biggest and the smallest specimens have their positions best established. We see also that H, G, and A, which differ little one from the other, have large average deviations. The data in Table 7 are presented graphically in Figure 27. The different specimens are indicated by the letters on the left, the different positions from 1 to 10 along the base line. The short vertical lines mark the position of the average value of the

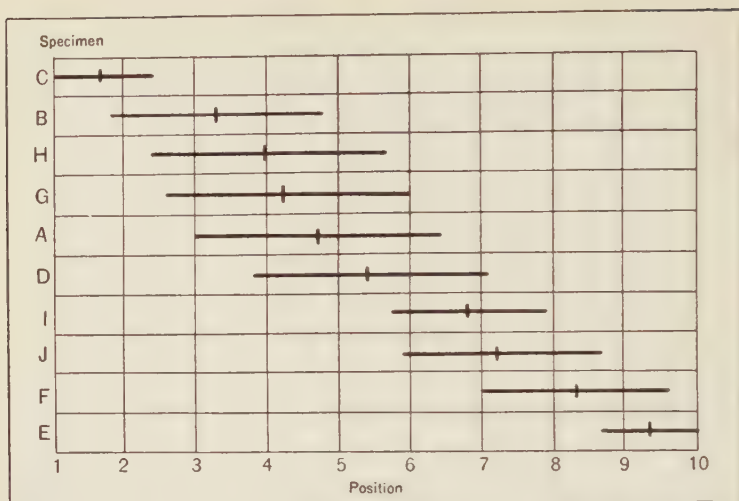


Figure 27: A graphic presentation of the degrees of estimated difference among the areas shown in Figure 25

different specimens and the horizontal lines drawn through these verticals indicate the extent of the average deviations. A chart so constructed enables one to see at a glance the relationship among the different specimens not only in terms of their average positions but also in terms of the deviations of the individual judgments from the averages.

WHAT TO DO WITH INCOMPLETE ORDERS

There is one difficulty which is sometimes met in dealing with the order of merit method in practical work. It often happens that a judge in dealing with a series of specimens, such as advertisements, will omit one or more of them, so that his order is incomplete. For example, if there are 10 specimens to be judged, he may judge only 8 of them, so that his best specimen will be 1 and his poorest specimen will be 8, whereas it should be 10. Various statistical devices have been invented for dealing with these incomplete orders so that they may be combined properly with other

complete orders. A recent experimental study¹ of the whole question has demonstrated that unless a judge's arrangement is very incomplete, special statistical treatment is not necessary, but the positions assigned may be combined regardless of the fact that some series are shorter than others. Thus, in Table 8, where 6 people estimated the size of 10 specimens, we find the average for A, B, C, and so forth, just as when the orders are complete, always basing averages and medians on the actual number of judgments given for each specimen. Of course, it is not advisable to use orders which are very incomplete, but where the incompleteness is due to accidents, as in judging advertisements, there will never be more than a few judgments lacking.

TABLE 8
DEALING WITH INCOMPLETE ORDERS OF MERIT

Object	Judge Number						Average	Order
	1	2	3	4	5	6		
A	2	1	1	3	.....	1	1.6	1.5
B	1	2	.....	2	1	2	1.6	1.5
C	.....	3	3	1	2	.....	2.3	3.0
D	3	4	2	5	3	3	3.3	4.0
E	5	5	.....	4	4	4	4.4	5.0
F	4	6	4	.....	5	5	4.8	6.0
G	7	7	5	.....	6	6	6.2	7.0
H	6	8	7	7	7	7	7.0	8.0
I	9	9	6	6	8	8	7.7	9.0
J	8	10	8	.....	9	9	8.8	10.0

THE MEASUREMENT OF RELATIONSHIP

The need for some ready means of expressing relationship arises in our comparison of the order of size determined by objective measurement and that determined by the consensus of opinion of our judges. We can compare the shifting of positions occasioned by difference in method of measurement for each object separately and get some idea of the degree of shifting, but our notion as to how close the relationship

¹Garrett, H. E., *Journal of Educational Psychology*, 1924 XV, p. 157.

will be vague indeed. The same need of finding relationships will arise in connection with the checking of the relative value of advertisements measured in returns and by means of group judgments. We can borrow from statistical methods a very simple means of expressing relationships which is especially suited to our orders of value. It is known as the "Rank Difference Method" and the expression of relationship thus derived is called "The Coefficient of Correlation." This figure is obtained directly from the difference in the positions occupied by any series of specimens when measured in two ways. The formula for obtaining this coefficient of correlation is:

$$1 - \frac{6 \text{ sum } D^2}{n (n^2 - 1)}$$

where D equals the difference between the two positions assigned to a given object, and n equals the number of objects in the group or series. The determination of the relationship between the order of size objectively measured and measured by opinion will illustrate the application of this formula. Table 9 gives first the letters indicating the object, then their order according to objective measurement, then the order determined by the consensus of opinion. The

TABLE 9
THE MEASUREMENT OF RELATIONSHIP

Object	Objective Order	Opinion Order	D	D^2
A	3	5	2	4
B	4	2	2	4
C	1	1	0	0
D	7	6	1	1
E	10	10	0	0
F	9	9	0	0
G	5	4	1	1
H	2	3	1	1
I	6	7	1	1
J	8	8	0	0

$$\text{Sum of } D^2 = 12$$

$$\begin{array}{c} n = 10 \\ n(n^2 - 1) = 990 \end{array}$$

$$\text{Hence } 1 - \frac{6 \times 12}{990} = 1 - \frac{72}{990} = +.93$$

next column shows the amount of difference in position in the two series, and the last column shows these differences squared. The sum of the differences squared is 12 and the number of cases is 10. Supplying these values in our formula, we find the relationship between objective order and order by opinion to be indicated by the value $+.93$. Now, if the two orders were exactly the same, that is, if the relationship were perfect, the sum of the differences squared would be 0, and the coefficient would be $+1.00$. If, however, the relationship were purely an accidental one, the numerator of the fraction would be as large as the denominator, and the coefficient would consequently be 0. Further, if the relationship were exactly reversed, if the largest by one measure were the smallest by the other, and so forth, the coefficient would be -1.00 .

WHEN CORRELATION COEFFICIENT SHOULD BE USED

We find that the relationship between the actual objective order and the order determined by opinion is extremely close and that taking the series as a whole one measure could be substituted for the other. This measure of relationship is quite useful in our advertising studies, and yet there are occasions when we will prefer to go back to our original orders for our information. For example, if we want to know whether the biggest or smallest object, the best advertisement or the poorest advertisement can be discovered by our judgment methods, that is, if we are interested in particular objects, then the coefficient of correlation will not help us. In every case the facts one wishes to obtain must determine the method to be used here as well as elsewhere in experimental work.

MODIFICATIONS OF ORDER OF MERIT METHOD

A number of modifications of this order of merit method have been used by different investigators and some of them have important applications to measurement in advertising. These modifications may accomplish two purposes, first to make the judging process quicker and less laborious, and second to permit the use of a much larger number of specimens than could be handled readily by the original order of merit method. Where one is sampling the opinions of various sections of the public, any means of facilitating the experimental procedure is welcome. It is indeed difficult to arrange a large number of specimens of any sort into an order without the expenditure of much time. The writer has used groups of specimens ranging in size from 6 to 90 and feels that a group of 20 is about the upper limit. In fact, with as few as 15 specimens one of the modifications of the order method has been found advisable. Some of the tasks which the psychologist has been asked to perform in connection with advertising problems involve the evaluation of as many as 1,500 items. To use the order method in such a situation is quite obviously impossible unless some short-cut methods are employed. Some of these more useful modifications will be described:

1. *Scale of Values Method.* In this method a scale is provided against which each specimen is to be measured, just as one might measure a piece of string by laying it upon a foot-rule. The most striking difference between this and the order of merit method is that each object is evaluated independently of all the other objects and with no regard to its relation to the other objects in the series. It is evident, then, that the number of specimens to be judged makes no difference in the difficulty of the task, except the time consumed in making the judgments. In the order of merit method the procedure consists of making comparisons back and forth among all the objects, picking first the two extremes and then putting the others in their proper place

between, so that the difficulty increases rapidly as the number of specimens increases. The scale method is reported by judges to be the less tiresome, as it does not require constant comparison, rearrangement, and avoids keeping in mind the separate objects at the same time. This method may be illustrated in the case of our series of areas, although in practice this would not be an appropriate place to use it. In Figure 28 is a series of five areas making up an area scale. The units in the scale are given values 2, 4, 6, 8, 10, so that 2 represents the large end of the scale and 10 represents the small end of the scale. To measure with this scale, one of the areas from Figure 25 would be compared with the units on the scale and given some value in terms of the scale, such as 2, 2.5, 2.7, and so forth. Each area would thus be evaluated independently of the others. The values assigned to a given area by the different judges would then be combined just as in the order of merit method.

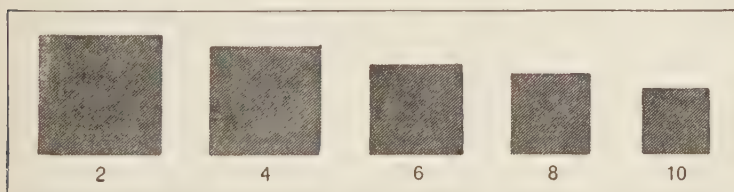


Figure 28: A sample rating scale for areas

Conklin and Sutherland,¹ who have compared the two methods, believe that the judgments by the scale method are not only the easier to make but are more direct and involve more of the personal feeling factor as contrasted with the order method which involves more of an impersonal and unemotional reaction. It is just this sort of personal reaction as opposed to the logical or rational sort that one usually wants to obtain in the study of advertising.

The authors just mentioned compared the two methods in

¹Conklin, E. S. and Sutherland, J. W., "A Comparison of the Scale of Values Method with the Order of Merit Method," *Journal of Experimental Psychology*, 1923, VI, pp. 44 ff.

the judgment of a series of 40 jokes. Table 10 gives the orders of the jokes obtained by the two methods. Since there is no objective check against which the two orders can be evaluated, one cannot say which is the better, but the difference in position of the specimens by the two methods should be examined. The relationship between the two orders expressed in terms of a coefficient of correlation is $+ .55$.

Much of the value of the scale method depends upon the quality of the scale. In this study of jokes the scale given below was used and must have offered some difficulty for the judges:

1. Very best joke possible
2. Excellent joke
3. Very, very good joke
4. Very good joke
5. Good joke
6. Funny, not a good joke
7. Very absurd, almost funny
8. More than slightly absurd
9. Just slightly absurd
10. Dull, stupid, not even absurd

It is quite possible that a simpler scale would have given results more closely related to those obtained by the order method.

Compare this scale with that used by Starch in his study of the potency of advertising appeals described in Chapter IV, where his instructions are: "Rate the following motives on a scale of 0-10—ask yourself in connection with each how important it is in determining your own actions from day to day. Write 10 after the very strongest motives, and a number between 0 and 10 after the others, according to their relative strength and importance." Franken¹ recently used this method in evaluating 77 appeals for hosiery.

¹Franken, R. B., "Advertising Appeals Selected by the Method of Direct Impression," *Journal of Applied Psychology*, 1924, VIII, p. 232.

TABLE 10

COMPARISON OF ORDER AND SCALE METHODS OF MEASUREMENT*

Joke Number	Scale Method	Order Method	Joke Number	Scale Method	Order Method
1	34	6	21	9	29.5
2	2	2	22	16	15
3	36	19.5	23	6	5
4	11	9	24	29.5	16.5
5	28	24	25	32	27
6	12.5	26	26	12.5	25
7	25	28	27	26	31
8	37	35	28	23.5	40
9	39	23	29	10	7
10	23.5	11	30	40	34
11	35	39	31	33	22
12	17.5	4	32	15	14
13	1	13	33	5	12
14	20	21	34	14	32
15	29.5	29.5	35	3	2
16	38	38	36	7.5	8
17	4	16.5	37	22	18
18	7.5	2	38	27	36
19	31	33	39	19	19.5
20	21	10	40	17.5	37

*Conklin and Sutherland.

His scale consisted of four steps, as follows: Very strong appeal—3; strong appeal—2; weak appeal—1; and very weak appeal—0.

There is one advantage of the scale method that may have interesting possibilities. Since each item is judged for itself against the scale, it would be possible to have the same scale used at different times by different persons for any one or more items. That is, it is possible that one might devise a scale for artistic quality in advertising, let us say, very much as handwriting scales¹ have been devised for measuring children's handwriting. Any isolated piece of advertising could then be judged upon this scale anywhere and by any group of competent judges. Although such application of the scale idea to advertising would be difficult on account of the problem of constructing the scales, it is not an impossible task. One need only point to the

¹For a description of the methods of preparing such scales, see Thorndike, E. L., "Handwriting," *Teachers College Record*, 1910, XI, Number 2.

types of scales used in educational measurement to see what has already been accomplished in this direction.

2. *Group Order Method.* This method was first used by Hollingworth¹ in his study of comic situations. He instructed his subjects to arrange 39 jokes into 10 piles according to their degree of "funniness." In the first pile were to be placed the superior jokes, in the tenth the poorest ones, while the intermediate piles were to represent gradations of merit from best to poorest. No instructions were given as to the amount of difference represented by these successive piles, nor as to the number of cards to be placed in each. This method is much quicker than the strict order method, less fatiguing and monotonous, and is stated to correlate closely with the results of the strict order of merit method. The fineness of the measurement would seem to decrease or the coarseness increase as the number of piles was decreased. But there is some evidence for the view that, in making the kinds of judgments that are usually called for, only a limited number of groups can be distinguished. Thus, Hollingworth, taking into account the variations of individual judgments in a great many classes of material, says that, "so far as the average judgment is concerned, there are only four distinct grades of difference or merit in the material, only four shades of distinction on which the group would, in the long run, agree." (The reader should refer again to Figure 27 with this statement in mind.)

A study of the feeling quality of type-faces which will be described in a later chapter offers data for a comparison of the group method with the strict order of merit method. Twenty-nine type-faces (Chapter XVI) were arranged into five groups by a large number of judges. After this grouping was made, each judge was required to take each group separately and arrange the specimens found there into an order. Thus, when each group had been so treated, there

¹Hollingworth, H. L., "Experimental Studies in Judgment," *Psychological Review*, 1911, XVIII, p. 132.

resulted an order of merit for the whole 29 specimens. By comparing the order obtained directly from the groupings with the final order of merit the relation between the two methods may be found either by inspection or by finding the coefficient of correlation. Table 11 gives the orders found in these two ways from the average of 40 judges. The first column shows the letter indicating the type-face; the second gives the average position assigned to each specimen by the 40 judges; the third column gives the order based on these averages; the fourth column gives the average group position of the different specimens; and the fifth column

TABLE 11
COMPARISON OF ORDER METHOD AND GROUP METHOD

Type-Face	ORDER METHOD		GROUP METHOD	
	Average Position	Rank	Average Position	Rank
A	16.7	13	2.7	15
B	19.1	20	2.4	20.5
C	22.0	25	2.0	25.5
D	9.3	7	4.1	6.0
E	16.3	11	3.1	11.5
F	9.1	6	4.0	7.0
G	17.4	14	2.6	17.5
H	11.8	10	3.7	9.5
I	18.6	17	2.6	17.5
J	18.7	18	2.7	15.0
K	6.2	4	4.4	3.5
L	16.4	12	3.1	11.5
M	17.6	15.5	2.8	13.0
N	11.6	9	3.8	8.0
O	23.4	27	2.2	23.5
P	23.0	26	1.8	27.5
Q	8.3	5	4.2	5.0
R	24.3	29	1.6	29.0
S	17.6	15.5	2.5	19.0
T	18.8	19	2.7	15.0
U	11.4	8	3.7	9.5
V	5.3	2	5.0	1.0
W	19.5	21	2.4	20.5
X	20.7	23	2.3	22.0
Y	24.2	28	1.8	27.5
Z	6.0	3	4.6	2.0
X'	21.8	24	2.0	25.5
Y'	19.6	22	2.2	23.5
Z'	5.1	1	4.4	3.5

gives the order based on these positions. It will be noted that in the "group averages" the larger the average the better the specimen, while in the "order averages" the lower the average the better the specimen. This is due to the fact that in the "group method" each group was given a weight as follows: group 1 was given a weight of 5, group 2 a weight of 4, group 3 a weight of 3, group 4 a weight of 2, and group 5 a weight of 1. The correlation between the results of these two methods is $+ .98$, when a perfect relationship would be indicated by $+ 1.00$. In spite of this high correlation there is a shifting among the first few specimens, so that if one were interested in selecting the best specimen only, the two methods could not be used interchangeably. It seems probable that if the two methods are to give exactly comparable results there must be a rather large number of judges for the "group method."

3. *Method of Preliminary Grouping.* The reference just made to the study of 29 type-faces suggests another useful variation of the order of merit method. This consists in resorting to a preliminary grouping of the material into three or more classes, followed by the determination of an order within each group, and finally putting separate orders together into a final order of merit. The preliminary grouping may be quickly done—an operation which greatly facilitates the arrangement into an order. Such a method may be resorted to where there are as few as 15 objects to be judged. As stated in the preceding section, more judges seem to be needed to get a final rating by the group method so that this modified form with its preliminary grouping may represent a real saving in labor over both the order method and the group method, provided the number of specimens to be judged is not too large. The relation between preliminary grouping and final order is shown in Table 11.

4. *There are certain circumstances in which one needs to know, not the order of value of all the specimens, but merely those which are the best.* Thus, if one is going to

choose a trade name for a new product he may conduct a prize contest and receive 3,000 names. Obviously, all that is wanted here is the best name or a list of the best 1%. A modification of the order of merit method can here be used to advantage. The material is grouped by a number of judges into three classes—good, medium, and poor. Now, all those specimens which the judges agree in putting into the “medium” and “poor” groups may be eliminated at once. Those about which there is disagreement are still retained along with those that were put in the good group. If there is a large number of these, the same procedure may be repeated on a new set of judges and again the “medium” and “poor” specimens eliminated. The “good” ones that now remain are probably few enough in number to be dealt with by the order of merit method. A procedure very similar to this was used in choosing a trade-mark from 1,500 that were offered in a prize contest. Only 11 specimens were left from the preliminary sorting to be arranged by the order method.

5. *The method described in the preceding paragraph does not give an order of merit for all of the specimens, but for only a selected few.* There is a short-cut method, however, which may be used to advantage and which will place all specimens in their order. If the number of items to be judged is not too large, say more than 30 or 40, the judges may be instructed to pick out the best five. On the basis of the number of times each specimen falls among the first five, an order of value may be derived. It will be noted that unless each specimen is placed among the first five at least once it cannot be given any other than last position. With a large number of judges every specimen is almost certain to be put among the first five one or more times. The position thus determined is not based on an average of a number of judgments but rather upon a number of votes. This method was used in an advertising contest conducted during the first Exposition of the New York Advertising Club. One hun-

dred and five advertisements, 30 from magazines, 27 from newspapers, 13 from farm papers, 12 from business papers, and 23 local advertisements, were displayed. Each judge was asked to select the 5 best magazine advertisements, the 5 best newspaper advertisements, the 2 best farm paper advertisements, the 2 best business paper advertisements, and the 3 best local advertisements.

The votes cast for the different magazine advertisements are given in Table 12 in order of size:

TABLE 12
MEASURING VALUE IN TERMS OF VOTES

Standing	Number of Votes	Standing	Number of Votes
1	1,321	17	225
2	1,304	18	191
3	1,270	19	190
4	1,017	20	184
5	757	21	173
6	653	22	160
7	647	23	145
8	639	24	124
9	607	25	01
10	543	26	89
11	511	27	88
12	485	28	46
13	476	29	27
14	411	30	23
15	391	Total	13,035
16	247		

This method of determining position does not enable us to get a measure of variability such as the average deviation, but the degree of difference among the different advertisements may be inferred at least roughly from a comparison of the number of votes received. There were over 13,000 votes cast during the test.

With these data it is not possible to compare this method with the strict order of merit method. However, the figures obtained from a study of the pleasantness of odors will afford such a comparison. In the course of this experiment, 2,526 women judges each picked from a set of six odors

that one which they liked best. An order of preference was then found as described above for the advertisements. Another experiment was arranged in which 84 other women judges were asked to arrange the six odors in the order of their pleasantness, putting the most pleasant one first and the least pleasant one last, and the others in their proper places between. From the average position assigned to each the order of preference was determined. Table 13 gives these figures for the two methods. The letters in the first column indicate the odors, the figures in the second column the number of votes cast for each odor, and the third column the order of preference; the fourth column gives the average position assigned by the 84 judges and the fifth column the order thus obtained.

TABLE 13
COMPARISON OF THE VOTE AND ORDER METHODS

Odor	Number of Votes	Order	Average Position	Order
A	199	6	3.36	3
B	349	5	3.12	2
C	740	1	2.44	1
D	400	3	4.36	6
E	396	4	4.06	5
F	442	2	3.60	4

It appears that specimen C stands first according to both methods, but that in the case of the other specimens there is some shifting. Assuming that the results of the order method are correct, then the judgment method would be satisfactory if the purpose of the experiment was to pick out the best specimen only. The evaluation of odors is a very severe test for any of the judgment methods. In fact, as stated in another place, the method of paired comparisons is the only one that can be used with entire confidence for this purpose. It is quite possible, therefore, that the voting method might make a better showing in the evaluation of any other kind of material.

6. *Method of Paired Comparisons.* Particular difficulties attend the experimental testing of odors such as has just been described. It is hard to deal with them without creating interference or mixture of the odors in the air or of fatiguing the sense of smell by repeated testing with the different odors. Another method has certain advantages in this case as well as in some of the judgment experiments involving colors. This is known as the Method of Paired Comparisons, and involves, as the name implies, reacting to the specimens in pairs, stating which one of the pairs is preferred. Since each specimen must be compared with each other one, the task is a laborious one. The number of comparisons required will be equal to $[n(n-1)] \div 2$, where n equals the number of objects. Thus, if there are 10 objects, 45 comparisons will be necessary, and if there are 6 objects, 15 comparisons will be necessary. The order is determined from the total number of times each specimen was preferred over any other specimen. The advantage of this method lies in the fact that only one pair need be compared at any one time. The record for each judge in this odor experiment would look like Table 14.

TABLE 14
SAMPLE RECORD IN PAIRED COMPARISON TEST

	A	B	C	D	E	F
A	—					
B	B	—				
C	C	C	—			
D	D	D	C	—		
E	E	E	C	D	—	
F	F	F	C	F	F	—

Referring to Table 14 we see that, when B is compared with A, B is preferred, when C is compared with A, C is preferred, when D is compared with A, D is preferred, and so on. Thus, the appearance of a given letter in the body of the table means that letter was preferred. Summing up these preferences we have:

A	B	C	D	E	F
0	1	5	3	2	4

hence the order of preference is, from most to least preferred, C, F, D, E, B, A.

A comparison of these two methods of measurement was made by Barrett,¹ who found that, for a series of 15 specimens of handwriting judged for quality, 15 weights judged for weight, and 15 propositions judged for degree of belief, the order of merit method gave as good results as the method of paired comparisons. The coefficients of correlation between the two methods were about $+.98$ for each of the three types of material. The method of paired comparisons takes very much longer to administer not only in getting the judgments but also in calculating the order. Therefore, this method should be used only where the character of the material to be measured makes it necessary, as possibly in the case of odors and colors.

¹Barrett, M., "A Comparison of the Order of Merit Method and the Method of Paired Comparisons," *Psychological Review*, 1914, XXI, p. 278.

VI

THE QUESTIONNAIRE

Why should a questionnaire be answered? To answer a questionnaire should give satisfaction. The appeal of a good questionnaire. Importance of brevity. Questions should be clear, direct, and simple. Comprehension of questions should be certain. Answers should be easily made. Questions requiring long answers. Interpretation of replies. Leading questions. Questions that will not be answered. Questions should elicit vital information.

THE questionnaire, as a means of sounding the interests, preferences, and prejudices of the consumer, has come into such general use that its psychological aspects will warrant our examination. There are many characteristics of the questionnaire which are in no sense psychological and these will not be referred to. However, such matters as its proper presentation to guarantee the largest number of replies, the form in which the questions shall be asked, the probability of a question being answered, the proper way to state questions so that they may be correctly comprehended, and so forth, are psychological problems. All of the methods that have been described in the preceding chapter may be put to use in the questionnaire—in fact, the good questionnaire is little more than a vehicle for such measuring devices. Some of the problems outlined above will be considered in detail.

Questionnaires are submitted to the consumer either orally, or by mail in written form. In the former, success depends more upon the talent of the interviewer than upon the form of the questions. Indeed, questions under such circumstances are mere guides, and the interviewer, like the salesman, suits his methods to the individual case. This discussion will be limited to mailed questionnaires, which, like printed advertisements, must be their own salesmen. It is

here that everything depends upon the character of the questions and the attitude which the questionnaire, as a whole, arouses in the consumer.

WHY SHOULD A QUESTIONNAIRE BE ANSWERED?

The advertiser might very well ask himself this question: "Why should any one take the trouble and spend the time necessary to answer my questionnaire?" Aside from those cases in which a definite reward is offered, in the form of a sample package, souvenir, or the like, the answer will have to be that there is no reason at all unless the task be made to arouse some motive or interest. The small returns from most questionnaires, ranging anywhere from 1% to 10%, with the smaller percentages predominating, show that the task is not often interesting and is not made to appear worth while. The problem of getting a questionnaire answered seems, therefore, to be identical with the problem of getting an advertisement attended to and read; if the two differ at all, the former is probably the more difficult of the two. And yet few, if any, of the devices that are used to make an advertisement attractive are used to secure an effective questionnaire. The devices that are commonly found useful for circular letters, booklets, leaflets, and the like, are not even used in questionnaires. Does the investigator here fail entirely to view the matter from the point of view of the consumer?

TO ANSWER A QUESTIONNAIRE SHOULD GIVE SATISFACTION

The most effective way to engender a favorable reaction to a questionnaire is to play upon the instinctive motives and desires. Thus, in a questionnaire concerning a talcum powder, the very first question was: "Do you have children under four years of age?" Such a question at once taps a wealth of interest in a mother and all the questions

that follow may be made to satisfy her interest in the welfare and happiness of her children. Another question which came later might have been asked first, namely: "What magazines do you read?" But the effect would not have been the same. Contrast this method of approach by way of a mother's interest in her children with the following introduction to a series of questions: "Do you do your own washing?" The fact that no one who was interrogated seemed to be doing her own washing indicated a failure to get cooperation rather than a radical change in family life. A feeling of pride prevented women from acknowledging that they did their own washing, when the question was so bluntly presented. The following formula to introduce a questionnaire appears in an article in *Advertising Fortnightly*¹. That it is effective most persons can testify from their own experience and susceptibility to the device.

A symposium is being conducted among a few of the country's leading _____ (insert here citizens, lawyers, railroad men, executives, dry-goods merchants, importers, exporters, etc., etc.) to determine their opinion on a matter of great public interest and importance. The question on which we wish to secure your opinion for use in properly molding public opinion is _____ (insert here the question or questions to which an answer is desired).

In spite of what our strictly rational attitude toward such an appeal might be, it does tickle our fancy to be classed among the leading_____. Our pride, our self-assertiveness, our ambition are all aroused and we do not apply our logic too strenuously.

Contrast with this approach the following more customary form:

We are going to ask you to help us make the _____ more valuable to you. With that end in view we have prepared the following questionnaire that we would urge you to fill out at your earliest possible convenience and return to us in the enclosed stamped envelope.

¹Heineman, T., "Diplomacy of the Question Mark," *Advertising Fortnightly*, July 18, 1923.

The reward here offered for one's cooperation is remote and uncertain, and interest is likely to be correspondingly weak.

The same author quoted above tells how resistance was broken down by the mere use of the word *census*. "Good morning, Mrs. Jones. I am taking a census of newspaper readers and would like to ask you some questions." No word would have done as well as *census*—it carries with it a respect and weight of authority developed through years of association with the government census for which every individual is compelled to answer.

THE APPEAL OF A GOOD QUESTIONNAIRE

The following letter represents an elaborate device for gaining cooperation in responding to a mailed questionnaire. The appeal is to the fundamental interest of a special class of consumer, and arouses sympathy and cooperation through its personal and confidential tone. The letter is written on a personal letterhead and is signed by hand.

Dear Miss _____

Often, very often I wonder how you people in the theatrical profession ever screw up courage enough to face an audience. I think it would scare me out of seven years' growth. Yet, at this very moment I am facing one myself—not the way you do it, but it seems no less difficult, just the same.

My audience is all women. They live all over the world. So you see, it is a scattered house. The most peculiar thing about it is that I'll never see a single one of the millions I must play to. They are all readers—readers of magazines and women's pages in newspapers.

Now I'll let the cat out of the bag. I'm in the advertising business, and a very interesting business it is. But people seem to think it an easy calling. They seem to think we work like magicians and just by waving a wand we create brilliant ideas out of thin air and dismiss the task with a feeling of "that's that."

As a matter of fact, it is the hardest kind of work—like your own profession. I have to know my lines and my steps

before the show opens. In other words, every move I make must be based on information which must come from many sources. In this case it must come from women who know exactly what they are talking about, so I am enclosing a list of questions and asking you to answer them for me. I am sure you will be kind enough to do this. Don't think for a moment that this is a left-handed way of trying to sell you something, for it isn't.

Indeed, I am prepared to exchange courtesies with you. If you will take ten minutes to write the answers to the questions, I will mail to you, immediately, a _____.

I must write this advertising for _____, and I have to play not only to that big audience of women, but to thousands and thousands of druggists, beauty-shops, gift-shops, and department stores. It isn't easy, so I turn to you as one woman to another for just a little help. I'm sure you will be glad to respond. I certainly will appreciate it—and thank you ever so much.

Yours most cordially,

THE IMPORTANCE OF BREVITY

Every questionnaire to be answered by mail should be short and require little of the person's time—a maximum of 10 questions is a good safe limit. The temptation is always great to add a few more questions in order to get the greatest amount of information possible for the expenditure. But too long a questionnaire will defeat its own purpose. If it appears to be a lengthy task to fill it out, the reader will either throw it away at once, or lay it aside until a more convenient moment. The second reaction is almost as deadly as the first, because the first postponement usually means that the questionnaire will never be filled out. A good rule for the construction of a questionnaire to be answered by mail would be: *Make it so short, so simple to understand and so easy to answer* that even the busiest person can take the time to answer it as soon as he receives it. To comply with these conditions and at the same time to get the information desired is indeed a difficult task, and means painstaking care in the construction of every sentence. In the

following paragraphs, certain psychological factors pertaining to the construction of good questions will be briefly considered.

QUESTIONS SHOULD BE CLEAR, DIRECT, AND SIMPLE

Any simple idea may be expressed in a great variety of ways and of all these ways there is probably one that has a maximum of clearness, directness, and simplicity.

A group of 75 educated people were asked recently to frame a simple question which would be best calculated to find out *how much people usually pay for their socks (or stockings)*. Out of the 75 questions framed there were no two exactly alike. The list below contains 43 of these questions. Some of them are extremely poor. Number 43, for example, would not get answers containing the information desired, and number 18 is even worse. At best it would give prices only above \$1. Question 29, which asks: "What quality of hosiery do you usually buy?" might not get a reply in terms of price at all. Question 33 might make troublesome answers: "What do you consider a fair price?" might mean: What do you pay? What is a legitimate price? What is the usual price?—but which of these meanings was chosen by the reader could never be determined by the investigator. These questions differ not only in their meaning, but in length, simplicity, and directness. They will repay careful examination in that they show many, if not all, of the pitfalls that await the beginner in the construction of effective questions.

1. Can you say definitely what the average pair of stockings costs you? How much?
2. Approximately how much per pair do you usually pay for stockings for ordinary wear?
3. Within what price class do your socks purchases lie; that is, between what limits do the prices you pay range?
4. What is the usual price that you pay for socks?

5. What is the average cost of your stockings, as determined upon the basis of purchases for a year?
6. How much do you usually pay for socks?
7. What price do you usually pay for socks?
8. What is the average price you pay for socks?
9. What would you say was the average price you pay for stockings during the year?
10. How much do you, as a general thing, pay for plain socks?
11. What is the price you usually pay for your socks?
12. How much should young men spend for socks?
13. How much did you pay for the pair of socks you are now wearing?
14. How much do you pay for a pair of socks?
15. We are trying to get information concerning the average price paid for hosiery. Will you please tell us what you pay for your hosiery, specifying the kind of hose you wear, socks or stockings, and the make?
16. We wish to ascertain how much you usually pay for socks. Please check which you use and how much you usually pay: Silk, Cotton, Wool, Mixed.
17. What did you pay for each of the last three pairs of stockings that you bought?
18. Do you usually pay more than one dollar for your socks?
19. What kinds of stockings do you wear, and what is the amount you usually spend when purchasing a pair?
20. On the average how much do you usually pay for your socks? What is the most you are willing to pay? What is the least you ever pay?
21. During the last year what was the average price you paid for a pair of socks?
22. What is your average expenditure, per pair, for socks?
23. What is the average price that you pay for socks?
24. What is the average price which you pay for stockings? What percentage over \$2? What percentage under \$2?
25. What is the approximate price that you usually pay for your socks?
26. How much do you spend for your socks?
27. What do you think is the average price you pay per pair for socks?

28. What do you consider a fair price for the kind of socks you usually wear?
29. What quality of hosiery do you usually buy?
30. How much do you find you have to pay now for silk stockings that wear well?
31. About what price do you usually pay for (a) your everyday socks? (b) your best wear socks?
32. Are you used to paying more than one dollar for your stockings? If so, how much?
33. What do you consider a fair price for a pair of socks?
34. How much are you in the habit of paying for a pair of stockings?
35. Irrespective of quality or style, what would you consider a fair price for a pair of stockings?
36. What price do you make a practice of paying for socks?
37. If you were buying socks for yourself what would you pay for a pair?
38. What priced socks do you customarily buy?
39. There is quite a difference in the prices that may be asked for a pair of socks. What, in your opinion, is a fair average price to pay?
40. For what price can you purchase a serviceable and good-looking pair of stockings?
41. What do your socks cost you?
42. What price do you usually pay a pair for the socks you wear?
43. What are reasonable prices for silk, wool, and cotton stockings of good quality in your budget?

COMPREHENSION OF QUESTIONS SHOULD BE CERTAIN

Questions must be easily understood. The question of comprehension on the part of the population as a whole and of various portions of it, as well as the means of meeting it, forms the subject matter of a later chapter. An extreme case is cited by Link¹ where questions were being put to candidates for a job. An interviewer was surprised at the consistent intelligence with which illiterate applicants

¹Link, H. C., *Employment Psychology*, p. 216.

answered the first three questions, which were: "What's your name?" "Where do you live?" and "What kind of work do you want?", and the complete failure to grasp subsequent questions. In the next interview which he conducted, the answer to those questions were as follow:

QUESTION: What kind of work do you want?

ANSWER: Antonio Digigli.

QUESTION: What's your name?

ANSWER: Fifty-four Williams Street.

QUESTION: Where do you live?

ANSWER: Machine job.

The candidate had been trained to answer the three questions in a given order and had no real comprehension of their meaning. A case is cited by Franken¹ in which the following question was asked: "Through what *mediums* can the story of the new army be most effectually told in your territory?" In some cases the word "medium" was taken to mean "method," in others to mean "agency" and in still others to mean "medium" in the sense in which advertisers use it. The result was that the responses differed widely and were so contradictory that they could not be used.

In a questionnaire sent to shoe dealers this question appeared: "Is yours an exclusive shoe store?" This question may mean either, "Does your store appeal only to a limited class of customers?" or "Does your store sell only shoes?" Although it was intended to mean the latter, no one could tell what interpretation the dealer would put upon it.

In a questionnaire on face powder this question appeared: "What *kinds* of powder do you use?" The answers showed that "kind" was sometimes interpreted to mean trade name, sometimes to mean form (as loose or compact) and sometimes to mean color or tint. The method of preparing questions illustrated in the pages that follow would eliminate such misunderstanding. All words that are well known only

¹Franken, R. B., "Formulating Questionnaires," *Advertising Fortnightly*, January 30, 1924.

within a limited range of the population should be avoided in questionnaires intended for general distribution. The importance of this caution was discovered in the preparation of questionnaires for discovery of trade skill during the war. It was found that many terms, especially trade terms, that were known in one locality would not be known or would have a different meaning in another locality. Sometimes a question is difficult to comprehend because of the way in which it is stated. Double negatives are especially bothersome for a hasty reading. The following is not an especially poor question but its structure might be improved: "When buying face powder, do you or do you not usually consider whether or not it is of a very fine texture?"

ANSWERS SHOULD BE EASILY MADE

The questions should be so stated that the answers may be given as easily as possible. Some form of checking is preferable to having the subject write his response, where this can be used. For example:

If you were buying a new refrigerator, what sort of finish would you select? Check one:

Painted metal	Enameled metal	Galvanized
Porcelain	Stone	Other

It is advisable that a question thus arranged should have all the important items listed, and that provision for some unusual item should be made by adding the term "other" or similar expression. Not only may the answer be easily given in this way, but it may also be easily interpreted without the necessity of deciphering handwriting. Even where the answer is to be either "yes" or "no" it is advisable to arrange for checking, as:

Have you ever seen an electric refrigerator?—yes
—no

The order of merit method (see page 99) may be applied in the construction of a question as in the following case:

In what order would you rank these writing instruments as coming near to filling your daily writing requirements?

Fountain pen

Propelling pencil

Steel pen

Wood pencil

No preference

Much useful information may be obtained from the single question when ranking is obtained as in this question, for there is some value in the knowledge of one's second choice and even of his last choice.

The danger in this type of question lies in the fact that it may become too complicated. Although the mere indication of order of value is simple enough, the *judgment* of relative value or of relative preference may not be easy. This is especially true if the list of items is a long one. Five items are about as many as one can safely have ranked when they are printed on one sheet and are to be numbered according to rank. In the usual order of merit procedure where 10 or more specimens are ranked, each is presented as a separate unit to allow shifting of position. This greatly facilitates their correct arrangement. The following question is too cumbersome for many readers:

Please note in the order of their importance to *you* these considerations in the purchase of a refrigerator. Number the most important Number 1, the next, Number 2, and so on, the least important being Number 7. Please note all seven.

Attractive appearance

Low ice cost

Low price

Recommended by friend

High quality

Reputation of manufacturer

Easy to clean

QUESTIONS REQUIRING LONG ANSWERS

Under certain circumstances it may be advisable to insert one or more questions which allow complete freedom as to the character of the answer. It is necessary to do so when one is seeking for new ideas about a product, such as new uses to which it may be put. Since they are to be new,

there is no opportunity to list them for checking purposes. A question of this sort is the following:

Do you know anything about cold cream that you think might be interesting?

"Yes" would be a logical answer to this question, but obviously the investigator wanted more than this; he wanted to know what the interesting things were. The question as stated might be defective in the hands of a person not inclined to be communicative. Questions of this nature are difficult to answer and the answers do not lend themselves readily to statistical analysis; hence, they should be used only when the simpler make-up of question will not serve the purpose.

INTERPRETATION OF REPLIES

The answers should be easily analyzed and interpreted. The proper form of checking or ranking method of obtaining answers makes statistical treatment of the results a simple matter as compared with the uncontrolled answer. If one is compiling 1,000 answers of the latter type, not only does one face the difficulty of reading a thousand different specimens of handwriting, but expert judgment may be necessary in evaluating the answer. Answers of the former type may be checked by an ordinary clerk, with little or no chance of error and at great speed. Take, for example, a simple case like the following:

8. What cold cream do you use? (Check)

- | | |
|----------------------------|------------------|
| —01 Pond's | —09 Melba |
| —02 Daggett and Ramsdell's | —10 A. D. S. |
| —03 Colgate's | —20 Plexo |
| —04 Pompeian | —30 E. Arden |
| —05 Elcaya | —40 Luxor |
| —06 H. H. Ayers | —50 Rubenstein's |
| —07 Armand | —60 Others |
| —08 Hudnut | —70 None |

The whole record of answers to this question will be in

terms of numbers. The tabulator simply notes the code number that is checked. Reference to the actual names will be necessary only after all tabulation is completed. Such a procedure is many times faster than reading and recording each name written.

Although the same general procedure is used in the following question, the great prominence given to the code numbers is likely to be very confusing to the reader. Since the code numbers are of interest to the tabulator only, they should be made as inconspicuous as possible without destroying their legibility.

7. What of the following is this home provided with?

Automobile	5—1
Electric iron	5—2
Electric ironing machine	5—3
Electric washing machine	5—4
Electric vacuum cleaner	5—5
Electric range	5—6
Gas range	5—7
Piano	5—8
Radio	5—9

When all of the items are to be ranked in order of use or preference a final average position may be assigned to each and a group order of use or preference obtained directly. The procedure here is exactly as described in Chapter V in connection with the consideration of the order of merit method. When such group orders have been obtained, the application of the correlation methods will show the degree of relationship between various age groups, social groups, occupational groups, the sexes, different geographical locations, and so forth.

LEADING QUESTIONS

Leading questions should be avoided, for the simple reason that they anticipate and to a certain extent control the answer. In a questionnaire study one's aim is to get the genuine reaction of the consumer, and not the reaction sug-

gested by the investigator. For this reason the identity of the interested parties should not be disclosed. If several people receive a questionnaire about their newspaper preferences and know that the inquiry comes from a given paper, either one of two things is liable to happen. The number of replies will be weighted in favor of the inquiring publication, because those not interested will tend not to answer, or the replies will be unduly favorable to the publication because of the subtle influence of suggestion.

What is true of the atmosphere of the questionnaire as a whole is true of each individual question. Each one should be examined to discover whether it is or is not a leading or suggestive question. A classical example of the leading question is the following:

"Have you stopped beating your wife yet?" Either a "yes" or a "no" answer is incriminating because of what the question presupposes. "Do you beat your wife?" may be answered without incriminating oneself. Other leading questions sometimes actually asked are: "Are you a hard drinker or a moderate drinker?" "Do you get drunk often or only once in a while?" To such a question one gets the reply indicating the milder offense. To the question "Do you drink?" one is likely to get the negative answer, and to the question "About how much do you drink?" a still different reply will be received. A milder and more subtle form of leading question which is likely to creep into market inquiries is illustrated by two cases cited by Munsterberg. When a clerk in a store says to a customer: "Will you take the package with you?" an affirmative reply is anticipated and frequently received. To the question "Will you have the package sent?" an affirmative reply is again anticipated and frequently received. One question is as easy as the other to ask but the difference in delivery costs might be considerable. Most buyers for the home have been at some time confronted, in a grocery store, by a good-looking young lady who offers a sample taste of Guava Jelly or the like, followed by the question: "Do you like it?" From a

TABLE 15
THE INFLUENCE OF LEADING QUESTIONS*

Form of Question	Times Asked	Percentage Right	Percentage Wrong	Percentage Uncertain (Caution)	Order	Suggestiveness	Order	Reliability	Order
1. Did you see a—?.....	198	15	4	81	2	89.2	2	78.4	1
2. Did you see the—?.....	355	16	10	74	4	62.6	5	61.5	4
3. Didn't you see a—?.....	226	11	10	79	3	91.7	1	52.0	6
4. Didn't you see the—?...	179	9	5	86	1	84.0	3	64.0	3
5. Was there a—?.....	325	32	18	50	5	43.6	7	64.2	2
6. Wasn't there a—?.....	341	31	24	45	6	51.8	6	57.0	5
7. Was the (k) m or n?....	251	30	30	40	7	77.5	4	49.7	7
8. Was the (k) m?.....	355	32	34	34	8	39.7	8	47.8	8

*Muscio.

psychological point of view one would expect the answers to be "loaded" in the affirmative; and yet such research methods are considered the most direct and reliable way of sampling the tastes of the public.

In one sense every question must be considered a leading question in that it implies that the person questioned knows something and it is that information which the question seeks. Still, questions differ markedly in their suggestive character. Muscio¹ studied the influence of eight forms of question upon the character of the answer, and his results are reproduced in Table 15. Using moving pictures as material for observation, he asked questions, all of a leading character, and calculated for each question the percentage of right answers, wrong answers, and uncertain answers. These percentages, together with the number of times each kind of question was asked, are given in the first four columns of figures in the table. In the last six columns are the values of the questions in terms of caution, suggestiveness, and reliability. Caution is represented by the number of times the person reported that he did not know (hence caution and uncertainty columns are identical). Suggestiveness is calculated from the number of times the subject followed the "lead" of the question. Reliability is calculated by finding the relation of right answers to the sum of the right and wrong answers.

The following conclusions may be drawn from the results set forth in the table. By using the definite article (*the*) instead of the indefinite article (*a*) the suggestiveness, caution, and reliability were all decreased. Introducing the negative (*not*) into the question decreased caution and reliability and increased suggestiveness. By asking whether certain things were present or had occurred, rather than whether they were seen or heard, suggestiveness, caution, and reliability were all decreased. By asking concerning the presence or occurrence and also including the negative,

¹Muscio, B., "The Influence of the Form of a Question," *British Journal of Psychology*, September, 1916.

suggestiveness and caution were decreased. Including both the definite article and the negative gave more complicated results. The question "Was the (k) m?" was found to be lower than all the other question forms investigated, for suggestiveness, caution, and reliability. The question "Was the (k) m or n?" was found to possess a relatively high suggestiveness, a relatively low caution, and a relatively low reliability. In general and with certain qualifications the investigator concluded that the most reliable form of question was that which related to the actual seeing or hearing of an item, using neither the negative nor the definite article.

QUESTIONS THAT WILL NOT BE ANSWERED

Questions that are impossible or difficult to answer or which invite prejudiced answers should not be included in a questionnaire. The following question was recently asked in a questionnaire on "men's collars."

"How many launderings do your collars stand on the average?" The replies ranged from 8 to 50 launderings. There certainly was a large element of guessing in those replies, as no man is likely to estimate wear in terms of launderings. Few people could give any reliable answer to such a question as "What percentage of your income do you spend for luxuries?" The number of persons who keep a budget which would furnish such information is very small; and furthermore one would have great difficulty in deciding what should be included under the head of "luxury." A question commonly used in investigations is somewhat like this:

"What first induced you to use ——— tooth-paste?" If it was the recent recommendation of a dentist, one might know. But if it had been used for some time, one might have great difficulty in deciding whether it was advertising, the suggestion of a friend, just having seen it in a drug store,

or the desire for a change, or several of these reasons combined. It is unusually difficult to determine what has been the influence of advertising in determining the purchase of a given article, because of the variation in appeal, frequency of the experience, and variation in location of the advertisements.

Many questions are difficult to answer because of their personal character. In some cases no answer will be given and in others it may be unreliable. The question as to a woman's age, which must by law be asked during registration of voters, is notorious for the resistance that it meets. In at least one state the following questions are asked of a male applicant for a marriage license:

Are you able to support a wife?

Do you have any disease which would make you unfit to marry?

It is quite useless to ask them, because the answers are certain to be prejudiced. To ask an individual applying for a job: "Are you willing to work?" or "Do you like to work?" is a waste of time, because his answer can be accurately predicted. In general it may be expected that questions concerning one's intimate affairs, his morals, his religion, his financial status, and many of his personal habits are likely to remain unanswered, receive evasive answers, or be answered falsely. The general outcry against the publication of the income tax returns in 1924 shows clearly the value put upon privacy and suggests the deep-seated character of the resistance offered.

QUESTIONS SHOULD ELICIT VITAL INFORMATION

The questions should be so chosen as to bring only vital information. This implies careful study of the whole plan and foresight as to what the general nature of the answers will be. It is difficult to give illustrations of this point without reproducing whole questionnaires, because the importance of a bit of information depends entirely upon the purpose of the investigation.

(C)

QUESTIONNAIRE

State _____ City _____ Date of call _____

Consumer's name _____ Address _____

Occupation _____
(Dressmaker, housewife, business-woman, etc.)

1. Which of the two following expressions is most familiar to you?
☐ Press Buttons ☐ Snap Fasteners (Check one)

A. Do the above expressions mean different things or the same thing to you?
☐ Different things ☐ Same thing (Check one)

2. Do you buy snap fasteners? (Yes-No) _____

3. About how many cards do you think you buy a year? _____

4. Do you know about how many fasteners there are on a card? _____

5. Can you suggest any way in which snap fasteners could be packed so as to be more convenient to you when using? _____

6. Do you use more snap fasteners
☐ On summer clothes? ☐ On winter clothes? ☐ The same (Check one)

7. Where do you buy most of your snap fasteners?
☐ Department stores ☐ Notion stores ☐ Dry-goods stores (Check one)

8. What brand of snap fasteners do you buy? _____

9. Why do you like this particular brand? _____

10. Is there anything you don't like about this brand? _____

11. Which of these good points in a snap fastener is most important to you?
 (Mark most important 1, next 2, next 3, etc. Mark all seven)

<input type="checkbox"/> A. Fastens and stays fastened—firm grip	<input type="checkbox"/> E. Smooth rolled edges that will not cut material or thread
<input type="checkbox"/> B. Cannot rust	<input type="checkbox"/> F. Flat or thin model—not too bulky
<input type="checkbox"/> C. Can be sewed on upside down	<input type="checkbox"/> G. Finish
<input type="checkbox"/> D. Ease with which fastener can be opened	

Mention and rank any other good points _____

12. Check the following points that you consider important:

<input type="checkbox"/> A. Hidden spring feature	<input type="checkbox"/> D. Metallic click in closing
<input type="checkbox"/> B. Exposed spring feature	<input type="checkbox"/> E. Oval holes
<input type="checkbox"/> C. Neat appearance	<input type="checkbox"/> F. Round holes

13. How much do you usually pay for a card of snap fasteners? _____

14. What article do you buy most?
☐ Hooks and eyes ☐ Snap fasteners ☐ Same (Check one)

Figure 29: This questionnaire is simple, asks significant questions, is easily answered and easily scored.

In a questionnaire dealing with men's collars these two questions were asked:

What make of collar do you generally buy?

What price do you generally pay for collars?

As collar prices are well standardized, the answer to the

first question would furnish the answer to the second. Hence, the second is unnecessary, unless it is to be inserted merely for the purpose of control, that is, to determine the accuracy of the answers to the questionnaire.

The question "What is the relation of size of your collar to size of your shirt band?" would be superfluous if one were interested in the number of each size of collar that should be stocked. But the question might possibly bring out information of value. For example, if it was a common practice to wear the same size collar as shirt band, that would mean that the individual is probably enduring a certain amount of discomfort in order to have a collar which fits the neck well at the top. If such were the case, it would be advisable to make collars slightly smaller at the top in relation to the bottom than at present.

The questionnaire¹ shown in Figure 29 may be taken as a sample of the best as now used. It does not show any introduction for the purpose of obtaining cooperation because it is intended to be presented by the investigator. If it were to be sent through the mail some good appeal would have to be used. It is not very long, and more than half of the questions can be answered by checking; one of them uses the order method (11). There are questions of the non-specific sort, such as (9), "Why do you like this particular brand?" It will be very useful exercise to study this questionnaire to determine whether there are not certain respects in which it might be improved.

This brief survey of the questionnaire may be summed up by repeating the caution to make the instructions and all of the questions simple and easy to comprehend. They will be read by a variety of intelligences and reacted to with various degrees of interest. All grades of intelligence and interest should be satisfied. This caution is necessary because of the great difficulty of getting even intelligent people to react correctly to a simple set of printed instructions which have no very vital concern for them.

¹Franken, R. B., *Advertising Fortnightly*, January 30, 1924.

VII

ATTENTION TO ADVERTISING

Presenting the appeal. Attention a preparatory adjustment. Need for attention power. Range of attention. Attention increases clearness. Attention fluctuates. Control of the movement of attention. The causes of attention. To be different is to attract attention. Difference through motion. Difference through novelty. Nature of spontaneous attention. Significance of spontaneous attention. Advertising a sensitizing force. Voluntary attention and advertising.

THE preceding chapters have been concerned with the fundamental idea which underlies an advertising campaign, and the psychological methods that are of use in determining what this fundamental idea shall be. We are now prepared to examine the ways in which this idea may be best presented in the form of advertisements. The variety of devices and methods for doing this is almost endless. New ones are appearing continually. Underlying them all, may be found a few psychological principles which rest upon a knowledge of human nature. This and succeeding chapters will deal with these psychological principles.

There is one fact that should never be lost sight of in the midst of the multiplicity of advertising devices, and it is this: *It is the underlying idea which is to be carried to the reader and not merely some novelty of advertising technique.* One may be so impressed with the attention and memory value of color, for instance, that he succeeds in having his colors attended to and remembered. However, if he is not advertising colors, but breakfast food, or fire insurance, the attention and memory value of his device will do little good. It is quite possible that some advertising force which would have great value, if properly used, might defeat its own purpose by drawing attention to itself and away from what is really vital in the advertisement.

ATTENTION A PREPARATORY ADJUSTMENT

The attention power of an advertisement occupies a peculiar position among all the factors that count in successful advertising. That an advertisement shall attract attention is, of course, essential; and yet a most successful creation, as far as attention-getting power is concerned, may be a total failure in actually getting the desired response. Any act of attention is a preparatory reaction only, a getting ready for some further response on the part of the individual. It may be thought of as a preliminary adjustment of the human machine which will enable it to deal with a problem or situation more effectually. In the case of visual attention with which we are primarily concerned in the study of advertising, the act of attention consists in turning the eyes and possibly the head and body toward the object, together with an adjustment of the visual focusing mechanism producing clear vision of the object. Attending to a sound means adjusting the auditory and other mechanisms of the body so that the sound may be experienced most effectually. Paying attention to a speaker means getting the whole receiving mechanism adjusted for taking in and comprehending what is said. An individual who has thus been adjusted to an advertising situation is in a position to make any further responses that may be desired. Whether further responses shall be forthcoming depends on other characteristics of the advertisement. In other words, to construct an advertisement so that it will merely attract the attention or even to construct it primarily with that in view would be futile.

NEED FOR ATTENTION POWER

In spite of the fact that attention is merely such a preparatory adjustment, the need for attention-getting power in an advertisement is becoming increasingly greater every day. The number of objects competing for attention, the

number of appeals directed toward people in the course of their waking hours is multiplying at a rate almost beyond belief. To limit ourselves to visual appeals, we see the immense quantity of reading matter in magazines, newspapers, bulletins, letters, and so forth, with which all advertising must compete; and within the field of advertising itself the huge bulk of matter with which any single advertisement must compete. In order not to be completely buried in this visual hubbub an advertisement must have attention-getting power. A daily metropolitan newspaper offers a very concrete and striking illustration of the need of attention-getting power. Assuming that a person spends on the average 15 minutes a day in reading his newspaper, there are anywhere from 10 pages to 40 pages competing for his attention. Each of these pages would take 15 or more minutes for complete reading. It is practically never a question then of reading everything but only those items which force attention to themselves. What are the characteristics of human attention? What are the factors on which it depends? Which of these factors are under the control of the copywriter? Which may be most effectively used? These and other equally vital questions will be dealt with in the pages that follow.

The derivation of the word attention gives a very interesting clue to one of its important characteristics. It comes from the Latin words meaning "to be stretched toward," "to be attracted to," and this is just about the meaning that the word preserves in modern psychology. In attending one does not push himself along, or prod himself, but *is drawn along by forces primarily outside of himself*. This is true in spite of the fact that in so-called voluntary attention one seems to be exerting himself to attend. The orator, the salesman, the teacher, or the advertiser, therefore, has in his control the external forces which constitute the "drawers" or "attractors" of human attention, and may use them to gain his ends once he understands their power. Briefly, knowing all the conditions upon which attention depends in

an individual or a group of individuals and having control of those conditions, attention can be guaranteed.

RANGE OF ATTENTION

Perhaps the most significant fact about attention is that it is at any moment narrowly limited in its range. When one confronts a newspaper page for a moment there is very little that one can readily see without letting one's eyes rove about. And every roving of the eyes, under such circumstances, means a shifting of attention. Test this for yourself by fixing your eyes on the center of a newspaper page held at reading distance and find how much can be clearly seen. Great care must be taken that the eyes do not slip about and thus allow the attention to shift. One can represent the result of such an experiment by a very simple drawing (Figure 30). Let the base line of this drawing be the zero of attention. Then the distance above this line attained by the curve will indicate the degree of attention. Note that there is a high peak and that the curve falls off rapidly on either side of the peak, or on all sides of the peak if one thinks of the figure as having three dimensions. To be sure, the area on top of this peak varies with certain conditions,

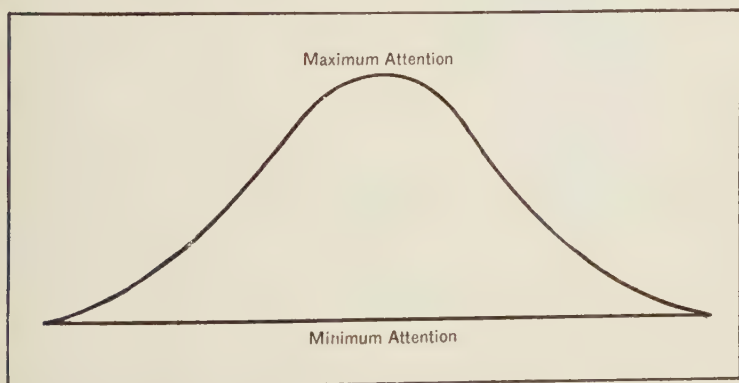


Figure 30: Graphic representation of the distribution of attention at any given moment of time

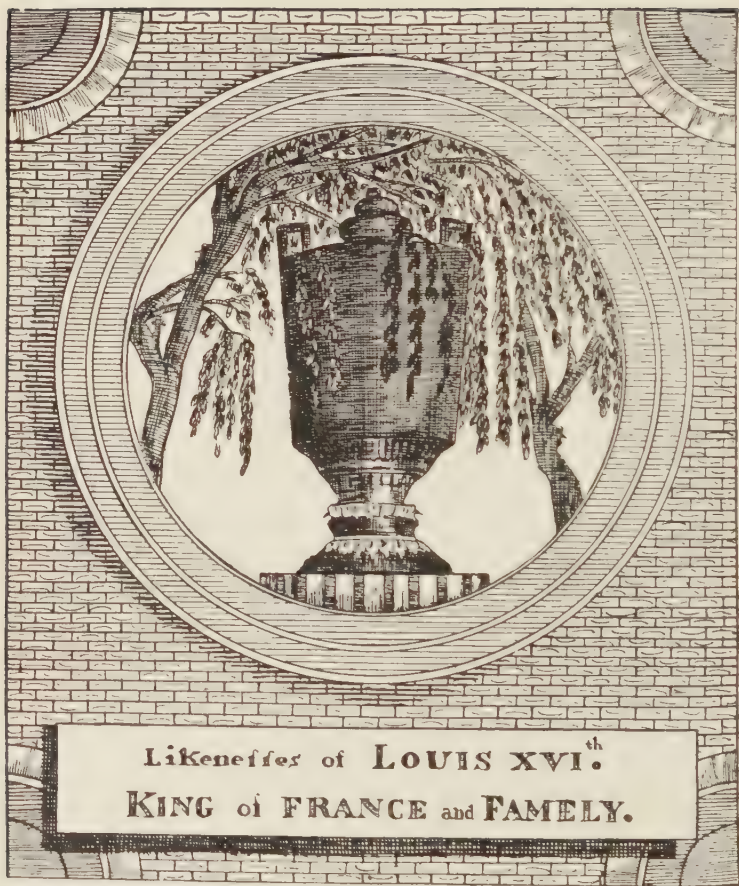


Figure 31: When one of the hidden faces in this figure is discovered, it will stand out clearly from the background.

but the peak is always relatively sharp. For a person under hypnosis the peak seems to come to a sharp point, so that one single idea only can get his attention. For the so-called "scatter brained" person the peak may be fairly flat. The point for the practical advertiser to note is that at any given moment one advertisement is going to be attended to while all the others are going to be neglected.

ATTENTION INCREASES CLEARNESS

It is a second significant fact that attention to anything seems to make it clearer, and to make it stand out more vividly than what is not directly attended to. This may be noted in our simple experiment with the newspaper page, but may be more strikingly illustrated with any simple puzzle pictures. In Figure 31,¹ look for one of the hidden faces. When you discover it, note how the lines that are used to represent it get heavier, so that it is now impossible to fail to see it. One wonders why he ever should have had to hunt for it. The change in the picture must be counted as the effect of attention. Take another striking case of the power of attention illustrated in Figure 32. Here one may see the little circles grouped into triangles, into diamonds, or into other geometrical patterns. When one formation holds the attention the others naturally disappear. Note the clearness with which the chosen pattern stands out. The same is true of a collection of advertisements. The one attended to not only gets the mere advantage of being seen at all, as contrasted with its competitors, but it is seen more clearly because it is attended to.

When one considers that a moment or two of the reader's time is often all that a printed page may receive, the question as to what advertisement shall be favored with that moment takes on vital importance. Granted that a given advertisement gets the moment's attention, what effect may

¹From Martin, L. J., *Über die Abhängigkeit visueller Vorstellungsbilder vom Denken. Eine experimentelle Untersuchung. Zeitschrift für Psychologie*, 1914-15, LXX, pp. 212 ff.

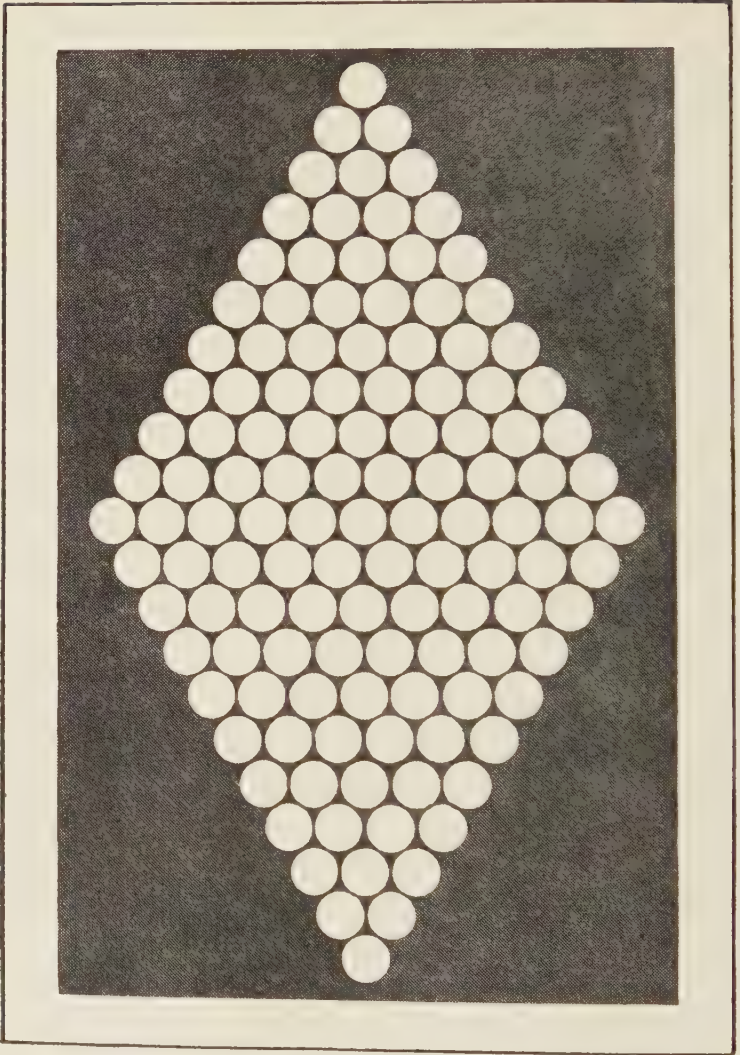


Figure 32: The direction of attention determines the patterns that one will see in this figure. (See page 151)

the limitation of attention have upon the comprehension of it? To answer this question it will be necessary to inquire

a little further into the attention process. The range of attention is limited not only to one among many advertisements, but is equally limited within the content of a single advertisement. That is, it is quite possible that not even a whole advertisement can be attended to at once. In general it may be said that no one can attend to more than a few things at a time. But the thing itself may be simple or complex. Thus, if I am allowed to glance for a moment at a group of letters of the alphabet arranged in random order I may grasp as many as five. But if the letters are arranged into words and the words into a sentence I may grasp five words of five or more letters each. Similarly if I glance at a series of dots arranged in an irregular fashion, I may be able to see and report five of them, but if they are arranged into regular patterns of five I can grasp five patterns. Now, the same thing holds true in an advertisement. If it is constructed of a series of disconnected units the whole idea cannot be grasped in a moment's observation. If, however, the same number of units are arranged into a logical pattern, then the whole can be comprehended at once. A rather interesting comparison appears in the two half-page advertisements in Figures 33 and 34. The effect that one gets from a glance at Figure 33 is quite different from the effect of Figure 34. This difference is due largely to composition—apparent simplicity as opposed to complexity. The latter is not chosen as a glaring illustration of too great complexity, as both advertisements are from an advertising medium of the highest quality.

ATTENTION FLUCTUATES

Another very important characteristic of attention is that it *fluctuates*. No single object can hold it for more than a brief interval of time, variously stated to be anywhere from a second to eight or ten seconds. The shifting of the eyes of a person who looks at a page of advertising will furnish a good clue to the shifting of attention. There is a



Beautiful candle-light

SINCE fashion and good taste now prescribe that candles should be burned—not merely displayed—the choosing of Atlantic Candles is more important than ever. For artistry in Atlantic Candles does not stop with beautiful designs and captivating colorings, but goes to the heart of true candle charm—the light.

Rare candle-making skill and the finest of materials enter the making of Atlantic Candles. Note how evenly they burn; the steady, flickerless flame; the complete absence of smoke or odor.

Atlantic Candles, popular-priced and infinite in shape and color variety, are distinctly labeled and are sold by gift, artware and house-furnishing stores everywhere.

THE ATLANTIC REFINING CO., PHILADELPHIA

CANDLE GLOW. A postal request brings you this interesting Atlantic booklet on candle styles and uses.

ATLANTIC CANDLES

very important point about this shifting of the eyes as an index of the fluctuation of the attention that is almost certain to escape the casual observer. It is that the eye sees nothing while it is in motion with respect to the objects within the field of vision. In looking over an advertisement, for example, the eye sees nothing while moving from place to place, but only when it is at rest. This discovery was originally made through carefully executed laboratory tests (see Figures 62 and 63 for photographs of eye movements, and pages 234-235 for a description of them). Any one may now verify the facts in an extremely simple manner. Look into a mirror and, while doing so, move the eyes about. You will never see them move,

Figure 33: An excellent illustration of unity of composition (See page 153)

although you will know from your feeling of them that they are moving. If you think that they are really not moving, have another person watch your eyes and report whether or not they do move. In this fashion you may convince yourself. In reading an ordinary line of print such as one finds in a book, the eyes make three or four stops. In looking at an advertisement, one cannot sweep his eye over the whole, seeing as he goes, but must make a series of stops at the points of interest. In order that a reader thus taking in an advertisement may get a unified impression of it, the advertisement itself should be so constructed as to guarantee a logical relationship among its various parts.

Now if one's advertisement is so constructed that a mo-

"And hie him home, at evening's close,
To sweet repast and calm repose."

—Thomas Gray.

CUT THE BUDGET

for the up-keep of your new Cypress Colonial Home by being sure that the Cypress you use is true "Tide-water," from swamps not over 200 miles from the sea.

You know "it's repair bills that eat the holes in the bank account."

Avert them by insisting on trade-marked Cypress, the "Wood Eternal," & no substitutes. You should have a copy of Vol. 44. "It's a classic in its field." Complete Working Plans Free.

192 pages. 96 pictures. Double Plan Sheet Supplement. Full Specifications for Entire House and Equipment. Also 3-sheet Special Colonial Art Supplement by a famous artist. Entire book exclusively designed. No "stock plans." Write.

SOUTHERN CYPRESS MANUFACTURERS' ASSOCIATION

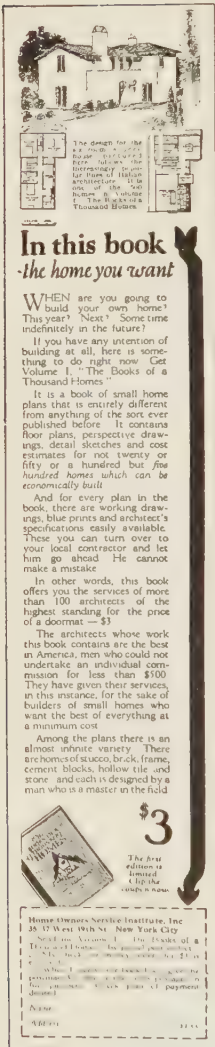


1206 POYDRAS BUILDING, NEW ORLEANS, LA.
OR 1206 GRAHAM BUILDING, JACKSONVILLE, FLA.



Insist on Trade-marked "TIDEWATER" CYPRESS. Accept no other.

Figure 34: Complexity of composition which retards the ready grasp of the story



The design for the new home is a perfect blend of the old and the new. It is a home that is both beautiful and practical. It is a home that is both modern and traditional. It is a home that is both simple and complex. It is a home that is both small and large. It is a home that is both cheap and expensive. It is a home that is both easy and difficult. It is a home that is both good and bad. It is a home that is both right and wrong. It is a home that is both true and false. It is a home that is both real and imaginary. It is a home that is both living and dead. It is a home that is both young and old. It is a home that is both new and old. It is a home that is both good and bad. It is a home that is both right and wrong. It is a home that is both true and false. It is a home that is both real and imaginary. It is a home that is both living and dead. It is a home that is both young and old. It is a home that is both new and old.

In this book
-the home you want

WHEN are you going to build your own home? This year? Next? Some time indefinitely in the future?

If you have any intention of building at all, here is something to do right now! Get Volume I, "The Book of a Thousand Homes."

It is a book of small home plans that is entirely different from anything of the sort ever published before. It contains floor plans, perspective drawings, detail sketches and cost estimates for not twenty or fifty or a hundred but five hundred homes which can be economically built.

And for every plan in the book, there are working drawings, blue prints and architect's specifications easily available. These you can turn over to your local contractor and let him go ahead. He cannot make a mistake.

In other words, this book offers you the services of more than 100 architects of the highest standing for the price of a doormat — \$3.

The architects whose work this book contains are the best in America, men who could not undertake an individual commission for less than \$500. They have given their services, in this instance, for the sake of builders of small homes who want the best of everything at a minimum cost.

Among the plans there is an almost infinite variety. There are homes of stucco, brick, frame, cement blocks, hollow tile and stone — and each is designed by a man who is a master in the field.

\$3

The first edition is limited. Clip the coupon & name.

Home Owners Service Institute, Inc.
35-37 West 9th St. New York City

Send me Volume I, "The Book of a Thousand Homes," by mail, for \$3.00. I will pay for it by check or money order for \$3.00.

When I receive my check, please return the \$3.00 to me in the form of a check or money order for \$3.00.

NAME _____

ADDRESS _____

Figure 35: A simple but fairly effective mechanical device for controlling the movement of attention

ment is all that is required to comprehend it, this shifting of attention will cause no difficulty. But there are many advertising messages that cannot be so simply and completely presented, no matter how skilfully the work may be done. In such cases the tendency of the attention to shift about presents a real problem. Hollingworth, years ago, put the matter very clearly when he stated that to meet the limited range of attention one's advertisement must be simple and unitary, and to meet the fluctuation of attention it must at the same time have a certain amount of complexity. That is, the advertisement must, through its logical or mechanical unity of structure, be readily comprehended, but at the same time there should be within this unity at least three separate objects which could attract the attention. Figure 33, while easy to grasp because of its simplicity, has sufficient complexity to keep the attention from slipping away.

CONTROL OF THE MOVEMENT OF ATTENTION

When the attention does fluctuate, the direction in which it shall shift is more or less under the control of the advertiser. He may, by the mechanical arrangement of his layout, determine how the eyes shall move, or he may accomplish the same result by the logical arrangement of his composition. It is

a curious fact that the eye tends to follow along lines rather than to jump across them. Hence, when attention is roving, lines properly placed may carry the eye with them. Figures 35 and 36 show how the eye may be carried from the top of a page to a coupon or other device at the bottom by means of a heavy line. In Figure 37 the attention first attracted to the pencil moves downward along it until it reaches the firm name. Here the device is less mechanical than in Figure 36.

Still another case may be seen in Figure 38 where the eye striking either fish follows the direction of its apparent movement and falls upon the illustration of the container. Here the attention-directing device, although still mechanical, takes on something of a logical character. Incidentally it may be noted that it is rather difficult to attend to the sections of the text which appear in the four corners of the advertisement and which are outside the center of attention control. Figure 39 represents the control of the direction of attention through the composition of the picture rather than by means of bare lines. The eye, attracted first by the illustration of the beautiful foot, follows the apparent movement toward the trade name of the shoe. Figure 40 shows a very effective mechanical device for attracting and guiding the attention, while it is at the same time a natural part of the composition of the picture. The saw-toothed edge of the shelf cover attracts the attention by its sharp contrast of black and white and by its points carries the attention above and below it. Finally, in Figure 41 we naturally follow the gaze of the characters portrayed and find our attention turned upon Morton's Salt. Here the attention moves in accordance with the logical composition of the picture instead of being mechanically guided by lines. This method, where it can be used, is preferable.

Borders are often ostensibly used to control the shifting of attention especially on a page where numerous advertisements must compete for the reader's attention. In such cases there is no attempt to guide the movement of atten-

When a radiator won't get hot- *try this*

JUST \$1.60 invested in AIRID will make the coldest radiator *hot*. And by ridding the radiator of cold air it lets the steam do its work and saves your fuel.

It needs no "fixing" because it is non-adjustable—never leaks—and makes no noise. Any pair of hands can put it on any steam radiator in two minutes.

Made and guaranteed by the
AMERICAN RADIATOR COMPANY
Specialties Department 1807 Elmwood Ave., Buffalo, N. Y.

AIRID

AIR-VALVES

SOLD AT ALL HEATING AND PLUMBING SHOPS

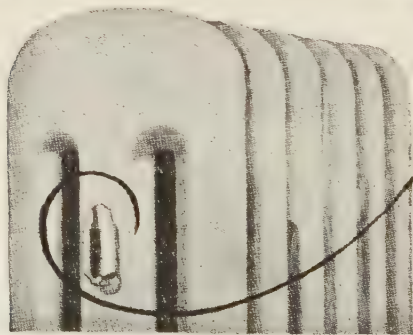


Figure 36: This attention-controlling line is only slightly less mechanical than that shown in Figure 35. (See page 157)

The Dixon
 "Ti-con-der-oga"
 is really a
 wonderful value
 for five cents.
 You couldn't ask
 for a better,
 smoother lead
 or for an easier
 pencil to hold.
 Its rounded
 edges make it
 especially
 "pleasing to
 the fingers."

And the
 price is
 Only
 5⁴

Write for
 Sample

Send 5c to us
 for sample if
 your dealer can-
 not supply you.

PORT
 TICONDEROGA
 Drawn by East
 Hotel after res-
 toration drawing
 by Alfred C.
 Benson, architect



DIXON

"TI-CON-DER-OGA"

The Business Pencil

JOSEPH DIXON CRUCIBLE CO.

Pencil Dept. 101-J

Jersey City, N. J.

Figure 37: The commodity is illustrated in such a way as to carry the attention to the name and address of the manufacturer. (See page 157)

Flake a pound of canned tuna fish, add one-third cup of diced celery, two shredded pimientoes, one-third cup of French dressing, and chill for twenty minutes. Then stir in sufficient mayonnaise to blend and serve with a garnish of any salad green and extra dressing. If desired, two chopped hard boiled eggs may be added.

Tuna fish salad is one of the many suggestions you will find in the new Wesson Oil salad and salad dressing recipe booklet. We would like to send you a copy with our compliments. Just write your name and address on a postal and send it to Wesson Oil, 112 Market Street, San Francisco.

FISH SALAD



FRIED FISH

WESSON OIL is a choice salad oil—light in color and most delicate in flavor. Use Wesson Oil in salad dressings, of course, but use it, also, for shortening and frying.

You'll never know how good a fried fish can taste—or a chicken—or an egg—until you have tried frying in Wesson Oil. You need a fat as good as Wesson Oil to make fried food as good to eat as fried food can be.

Figure 38: The eye, following the apparent movement of the fish, is directed to the center of interest. The copy at top and bottom may be slighted. (See page 157)

tion within the advertisement but merely to prevent the eye from roaming off to a competing advertisement. Such a device like all mechanical means of attention-control may be effective for a moment, especially where the forces struggling for attention are evenly balanced. They should not be relied on exclusively but at best should be used in conjunction with other more inherent forces in the composition of the advertisement. Figures 42 and 43 show the most common border devices. The first makes use of a simple line border while the second adds some interest by making the border out of the commodity advertised.

In the foregoing pages some of the most important characteristics of attention and their bearing upon advertising have been presented. We have noted especially that the range of objects that can be attended to at any one moment is quite limited and in addition to this that attention seems never at rest but is constantly moving about from object to object.

THE CAUSES OF ATTENTION

We have now to examine the causes that determine which, out of all the possible objects of attention, shall really get the attention, which advertisement shall be attended to and the others neglected, and further how the attention shall move within a single advertisement. The causes of attention can be illustrated by examining the behavior of a simple physical object, such as a large drum. If I need, for some purpose, a certain volume of sound from a drum I can get it in either one of two ways. First, I can beat the drum with great physical force. Second, I can have a very sensitive drum so that a slight blow upon it shall produce a powerful effect. In the first case the effect is obtained by the use of a strong physical force and in the second through the responsiveness of the drum itself. We may now let a human being take the place of the drum and the attention reaction take the place of the sound of the drum. We can then get a given amount of attention to an object by applying a strong



Look for trade mark



FLEXIBLE
for foot freedom



JOHANSEN

Feeture Arch Shoes

WITH THE FEETURE-FIT HEEL

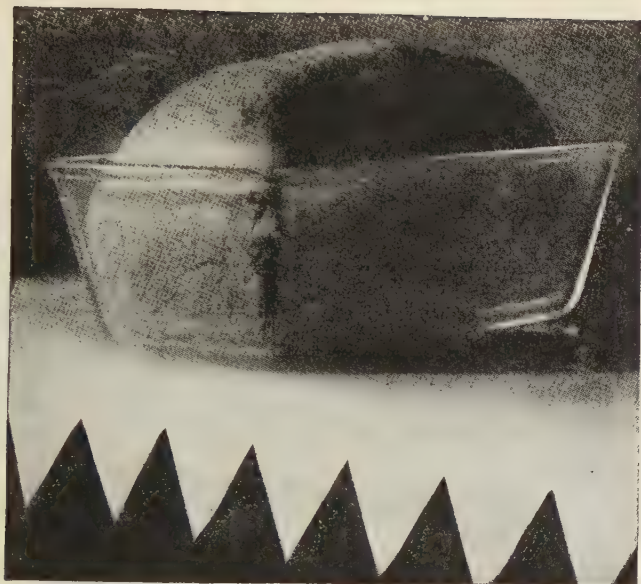
Pain is Nature's danger signal. Aching or burning feet, corns, callouses, smarting, tenderness, cramps, bunions, rotating heel, crooked great toe, even excessive perspiration, mean that your foot is out of position . . . and mean that you need Johansen Feeture Arch Shoes. For no matter what your foot trouble may be they bring quick, certain relief by regaining for you the original correct and healthful position you lost. Perfect, permanent comfort! For your further comfort there is the Feeture Fit heel which clings closely to your heel, never gaping, never slipping. We'll be happy to send FREE the booklet, "Ending Foot Troubles," the newest bulletin of smart styles, and nearest dealer's name. *Johansen Bros. Shoe Co., 3641 Laclede Ave., St. Louis, Mo.*

RIGID
to support the arch



They Have Made Fashion Comfortable

Figure 39: The direction of attention is controlled through the composition of the picture. (See page 157)



© C. G. W. 1936

Paul Outerbridge, Jr.

*Better baked Bread is the
result of baking it in
PYREX*

Illustrating No. 212 PYREX Bread Pan. At all dealers in U. S.



Perfect Baking—Beautifully Served

Write Department "G" for the "Expert's Book on Better Cooking"

A PRODUCT OF CORNING GLASS WORKS, CORNING, N.Y., U.S.A. ORIGINATORS AND PATENTEES OF OVEN GLASSWARE

Figure 40: A very effective mechanical attention device incorporated as a part of the illustration (See page 157)



A Luxury in the BATH-ROOM *—A Necessity in the KITCHEN*

WHEN first you enjoy the luxury of a Morton's Salt bath you will be surprised at the feeling of stimulation and well-being you experience. For Morton's will convert your bathtub into an ocean plunge, giving you all the health-bringing exhilaration of a dip at the seashore.

Morton's, being a highly purified and non-irritant salt, is ideal for salt-water bathing. It opens the

pores of the skin, cleansing and purifying them and imparting to the body a warm, pleasing glow of health.

Many dainty women have found that a saline or salt solution made with Morton's is the perfect deodorant.

Buy an extra package of Morton's for your bathroom. You will be delighted with its many pleasant uses in the preparation of a dainty toilet.



MORTON SALT COMPANY
Chicago

Morton's became the choice of millions of women because it met—and still meets—every requirement of an exacting cook. Flavor? Morton's has it—the true flavor of pure salt, many times refined. Economy? Morton's goes farther because you can use every grain of it—it doesn't lump or cake in the package. Convenience?

WHEN IT RAINS
—it pours



Figure 41: Interest in human activity controls the movement of attention in this advertisement. (See page 157)

physical stimulus, such, for instance, as a very bright light, or we can get the same effect if the human being is highly sensitive to light so that a relatively weak light will produce a strong reaction. Corresponding to these two types of reaction there are two forms of attention; namely, what is commonly called *involuntary attention*, where the strength of the stimulus determines the reaction, and *interest or spontaneous attention*, where the characteristics of the individual rather than the stimulus determines the reaction. These two forms of attention are of sufficient importance in advertising work to warrant a detailed examination of them.

TO BE DIFFERENT IS TO ATTRACT ATTENTION

It is the property of the sense organs, aside from any mental influence, to react more violently the more powerful the stimulus. Thus, a frog with his brain removed will react in a characteristic manner to light, sound, touch, and so forth, with a force depending upon the strength of the stimulus applied. But the stimulus or shock must be applied with a certain abruptness or suddenness in order that a response shall be forthcoming. This is true both in the frog with his brain removed and in the normal human being. It is frequently stated in text-books of physiology that a decerebrated frog may be boiled in a shallow pan of water without attempting to escape, provided only that the temperature of the water is raised slowly enough. Although a bright light suddenly flashed in a person's face will invariably attract his attention, changes in light intensity equally great will pass unnoticed if they take place gradually. The human being is very sensitive to sudden temperature changes and yet one may sit in a room with gradually rising temperature and not detect it until the total change is very great. These and many other observations made in the physiological and psychological laboratories enable us to conclude that for attention of the involuntary sort *it is change of condition* that constitutes the only stimulus. Bearing in



RICHARDSON

SUPERHETERODYNE KITS

enable you to

Build a Super in Four Hours!

Superior because of

1. "Kan't-Go-Wrong" Wiring System.
2. Because each RICHARDSON Transformer is matched and tested for amplification factor and peak by D. W. Richardson personally.
3. Because every Kit is guaranteed to give the results claimed for it, or you get your money back.

LARGE KIT

(Complete parts for Richardson

9 tube Superheterodyne, except
tubes, batteries, speaker, loop).

Fits in standard 7 x 26 cabinet • \$95.80

N. Y. Distributors:

R. H. McMann • • • • 122 Chambers St.

Clark & Tilson • • • • 552 Seventh Ave.

Peter J. Constant • • • • 91 Seventh Ave.

RICHARDSON

9 - Tube Superheterodyne

KITS



Figure 42: A simple border device for holding the attention upon the advertisement (See page 161)

mind the fact that the change must occur with a certain degree of suddenness, we can modify the statement for our purposes as follows: It is *difference which constitutes the physical stimulus for attention*. To be different is to attract the attention. The direction of the difference is of minor significance. If a clock has been ticking regularly in the room in which you are working and it suddenly stops, it is the absence of sound that attracts the attention. If one is sitting in a bright light and it suddenly grows dim, it is the weakening of the stimulus that attracts the atten-



Figure 43: Border devices may be made to serve a double purpose when made of the commodity itself as in this advertisement. (See page 161)

tion. If in a given advertising section of a magazine all the advertisements are in black and white except one which is in color, that one by its great difference will attract the attention. But if all are colored, the color then no longer constitutes a difference and will not attract the attention to one advertisement rather than another. If in a certain magazine all advertisements but one are half-page or smaller, a full-page will, by its difference, attract the attention, but as soon as many others become full-page advertisements the factor of size loses its force as a cause of attention.

DIFFERENCES THROUGH MOTION AND NOVELTY

A device that satisfies best the requirements for getting attention is motion. Any moving object tends to attract the attention; if there is constant change, a continually fresh difference appears. The use of this device in advertising is limited, to be sure, but where it can be used, as in show

windows, electric signs, and so forth, there is no doubt of its potency in attracting the attention.

Differences of a qualitative sort as well as those of a quantitative sort will attract the attention. Thus in the advertising field, new novelty devices of all sorts, such as printing white on black, of color combinations, and curious illustrations, will attract attention as long as they make one advertisement different from another. But it should be noted that the effectiveness in this respect depends entirely upon the factor of novelty or difference. In the rapidly developing field of advertising, novelties soon cease to be such.

There is an important biological significance to be attached to this potency of what is different in attracting the attention. For animals, and man, too, in his primitive state,



Figure 44: To be different is to attract attention.

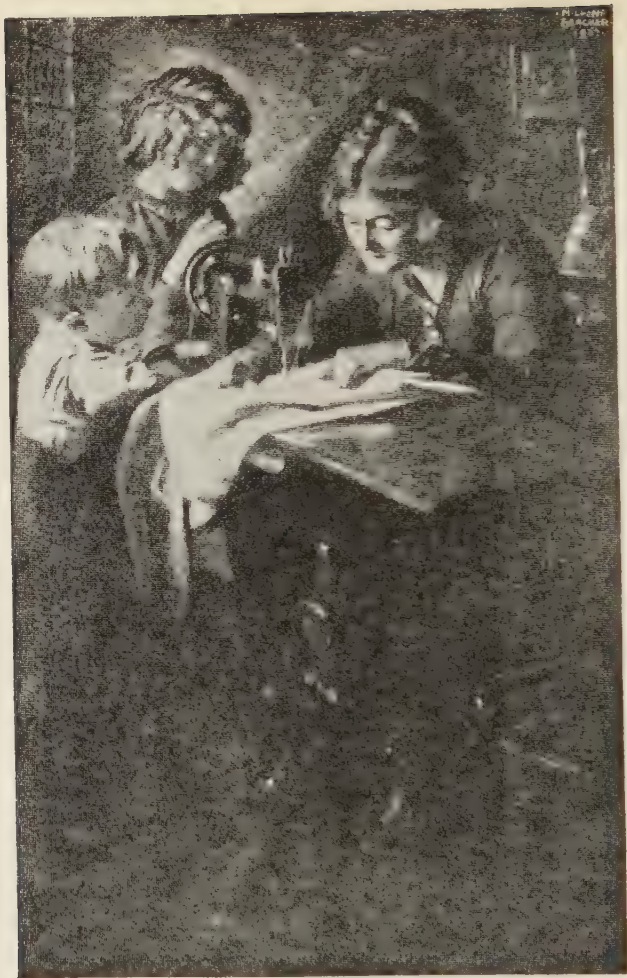
survival must have depended largely on the quick and certain detection of enemies. Whatever is different—any sudden change—in the environment might mean the presence of an enemy. Those creatures which possessed this power of quickly detecting possible enemies would have the chances for survival greatly increased. The tendency of a horse to shy at objects, such as pieces of paper along the roadside, necessitating the use of “blinds,” is a curious instance of

this sensitivity to differences, which at present has no utility.

The ways of being different in advertising are, indeed, too numerous to be listed, and new ways are constantly being discovered. Certain of them, such as the use of large space, of large type, of color, white space, have become standard practice in advertising, and experimental studies have been made of them. The results of these studies will be described in the following chapter. Attention through difference is well illustrated in the case of Figure 44. Not only are the two advertisements sufficiently different from the ordinary layout to attract attention, but within the advertisement itself there is a sharp contrast between the black and white lines, in the thickness of the lines and the varying shapes produced.

NATURE OF SPONTANEOUS ATTENTION

The spontaneous type of attention, we have said, depends upon the sensitivity of the human being to certain kinds of stimuli. We can speak of two sorts of spontaneous attention according to the origin of the sensitivity, namely, non-voluntary and voluntary attention, although the distinction is unimportant. We have non-voluntary attention or interest where the sensitizing has occurred in the course of the evolution of the human race and in the past experiences of the individual himself. For example, the sensitivity of each of our special senses is limited to a very narrow range of possible stimuli. Our eyes see only a small portion of the total range of ether vibrations; neither the ultra-violet nor the infra-red rays are visible. We cannot directly see the x-rays or directly sense the radio waves. The human being is, indeed, highly specialized in his sensitiveness. Many sensitivities are acquired in addition to those which form part of our natural endowment. In many respects training in any particular line of work consists in part in becoming sensitized to the materials in that line of work. The train-



STITCH! STITCH! STITCH!

If every wife knew what every widow
knows, every husband would be insured.

THE PRUDENTIAL INSURANCE COMPANY OF AMERICA

EDWARD D. DUFFIELD, President

Home Office, NEWARK, N. J.

Figure 45: Attention gained and held, without mechanical devices, through the appeal to fundamental interests (See page 172)

ing of the geologist makes him sensitive to differences in rocks and their arrangement that escape the ordinary observer; the artist is sensitized to differences in color and form that an untrained observer does not detect; the buyer of a certain line of merchandise is sensitive to fine quality differences that the user will never appreciate. This type of sensitivity is called interest because it represents what a person seems to want to do. He need not prod himself to act, nor does he feel that the situation in which he is placed compels him to act.

Certain interests can be counted on to be present in all human beings. The inherited sensitivities constitute part of the equipment of the human race as a whole. But many of the acquired interests are so uniform throughout civilized peoples that they can be counted on to be present with equal certainty. In general it may be said that the list of interests coincides with the list of desires described in Chapter IV. Certainly all the objects of desire are objects of interest. That is, not only is there a tendency to act so as to give satisfaction to one's desires but the objects of these desires constitute in themselves powerful sources of attention. For example, the sex desire is correlated with interest in the opposite sex. To a male, a female is an object of attention to which he is highly sensitive. The desire for sociability is correlated with interest in other people; they always constitute effective sources of attention. And so with our complete list of desires, which is a composite of what is native and what is acquired.

SIGNIFICANCE OF SPONTANEOUS ATTENTION

The significance of this type of spontaneous attention or interest for practical control of behavior lies in the fact that interest does not need to be created—it is already present; to satisfy it meets no resistance from the individual—that is what he wants to do. Contrast this sort of response to that of involuntary attention where one may actually resist

the influence of a stimulus—as, for example, a bright light, a loud sound, or a moving object—or if he does attend to it, he does so only momentarily.

It is not difficult to detect the difference in the attention reaction to Figure 45 as contrasted with that to Figure 42. In the former there is a gripping effect which holds the attention after it has been attracted. Images are aroused, ideas are set going, and resolutions may follow that will determine one's behavior. The actual potency of such a means of controlling attention, where it can be used, is many times greater than that of mere mechanical devices.

ADVERTISING A SENSITIZING FORCE

There is one further fact concerning attention through sensitivity or interest that has a bearing upon advertising. Sensitivity may be acquired through persistent advertising. If the specialist in gems can be sensitized to detect the smallest defects in precious stones, if the doctor can be sensitized to small irregularities in the action of our bodily organs, human beings can be sensitized to certain advertising appeals through educational campaigns. People have certainly become sensitive to unclean teeth, to unpleasant breath, to mahogany as a cabinet wood, and so forth. In the same way they may become attentive to such special commodity appeals as Cream of Wheat, Ivory Soap, Uneeda Biscuit, or Wrigley's Gum. Evidence of this acquired sensitivity may be found in the resistance to the introduction of new products upon the market, such as dictating machines, new shaving accessories, and so forth. This matter will be discussed further in a succeeding chapter.

VOLUNTARY ATTENTION AND ADVERTISING

The second form of spontaneous attention is sometimes called voluntary. The individual seems to direct his attention wherever he wants, selecting certain objects and reject-

ing all others. This form of attention may be illustrated by a wireless receiving apparatus which may be tuned at will to receive messages of various wave lengths and to cut out all others. It is not permanently tuned or sensitized. For example, a person may be neither naturally nor by training interested in classified advertisements, and yet if he is out of a job he may become extremely interested in them or sensitized to them. Given a certain interest either temporary, as in this case, or permanent, as in the cases described earlier, then the direction of attention is determined by stimuli which are external to the individual. This latter type of sensitivity or interest does not lend itself to control by advertising because it varies from individual to individual. In individual salesmanship, however, it is very effective to play upon these personal interests. Certain restricted groups of people may sometimes be counted on to be temporarily tuned to certain impressions as in the case of interest in baseball during a National Championship series, or in other sports at various times of the year. At such times selling campaigns for these groups may be grafted on to these temporary interests. But the advertiser must rely primarily upon the native interests and those fundamental acquired interests, such as were presented in Chapter IV, for his control of attention in advertising.

VIII

ATTENTION AND MAGNITUDE

Isolating the size factor for study. Size and freedom from competition. Size and quality of the advertisement. Size and prestige. What is meant by "value of size?" Separating attention and memory value. Size differences must be noticeable differences. Methods of studying effects of size. Historical method. Tachistoscopic method. Recognition method. Attention value of size in magazine advertising. Attention value of size in newspaper advertising. Certain conflicting evidence. Differences in experimental methods. Conclusion.

AMONG the objective devices which may be employed for attracting the attention probably none has occupied such an important place in advertising literature as size or magnitude. Arguments in great number have been presented to show that any amount of space is worth as much or more than it costs, and arguments in equally great number and apparently of equal force have shown that space is not worth what it costs after a certain magnitude is reached. Experimental studies have led to equally uncertain and equivocal results. The space problem looms large and calls for solution because of the great sums of money that the buying of space involves. The problem has defied solution because of its complicated character and the inability of investigators to control for experimental study the numerous factors that enter into it.

ISOLATING THE SIZE FACTOR FOR STUDY

First of all we must recognize that size may be effective in other ways than in attracting attention and that it is very difficult to abstract size from many other factors for separate study. It is a rule of scientific procedure that when one wishes to study any given variable such as size, other factors

must either be eliminated or held constant. Now, neither of these two conditions may readily be complied with if we are to keep close to the practical advertising problem. To be sure, one can perform in the psychological laboratory experiments on the attention value of differences in size or the degree to which differences in size can be noticed. Or one can take specimens of advertising as one finds them, pick a considerable number of full-page, half-page, quarter-page, and so forth, more or less at random, and measure the relative attention value of these size groups. The assumption underlying this second method is that since the groups were selected for size differences only, all the other factors, such as quality, form of layout, and so on, will vary indiscriminately throughout the groups, and, as attention factors, will offset each other. The differences in attention value of the size groups would then be attributed to the size factor. It cannot be safely granted, however, that all factors except size will vary at random. There are certain characteristics which may well go regularly with one size and not with another. In such a case the use of large numbers of advertisements of a given size would not rule these factors out. First, for instance, it is conceivable that the larger sizes of advertisements would occupy more favorable positions in the advertising medium. One seldom finds other than full-page displays on the back covers or inside back covers of our best-known national magazines. If such were the case regularly, any test of the influence of size would be disturbed by the factor of location.

Second, a full-page advertisement, by the very fact that no competitor can occupy the page with it, has a certain advantage in that very fact. Likewise, a half-page advertisement can have only one competitor for attention as compared with an eighth-page, which would have seven. When advertisements are tested by the ordinary methods, this factor cannot be separated from size. And yet this question of isolation from competitors is quite different from the question of size. For example, one will get just as

effective isolation on a small-size full-page as on a large-size full-page, although the actual sizes may vary, as 1 to 2.

Third, large advertisements, because of their cost, may have more time and money expended in their preparation than smaller ones. It is quite probable that a full-page costing \$10,000 should receive more careful preparation than an eighth-page costing \$500. If this is the case, tests of the efficiency of actual advertising material would be giving to large sizes an advantage which they do not deserve purely on the basis of size. For whatever the size of the advertisement, it would be possible and advisable to spend the maximum of effort and care upon its construction.

Fourth, there is another factor that varies with size and probably should not be separated from it, and yet it is *different* from size. It is that greater size offers greater *opportunity* for effective layout, such as choice of size and arrangement of type, or choice and location of illustrations. Even the character of the copy itself may be determined by the space available for it. This factor, it will be noted, depends on actual area in square inches rather than upon whether the space is full-page or half-page, as in the case of the fourth factor.

Fifth, large size may carry with it a certain amount of prestige or atmosphere of prosperity and success which is somehow transferable to the article advertised. That is, a full-page carries more prestige than a half-page, but when size is measured in square inches rather than in terms of pages or parts of pages, a half-page in one of the large magazines may cover more area than a full-page in a standard-size magazine. According to our assumption, the smaller full-page would then carry more prestige and hence be more effective than the larger half-page.

WHAT IS MEANT BY "VALUE OF SIZE"?

These distinctions are not purely academic. The confusion of opinion among advertisers as to the value of size

is due no doubt to a difference of opinion as to what is really meant by difference in size. Does one mean purely relative differences such as full-page, half-page, quarter-page; or does one mean absolute differences such as 100 square inches, 50 square inches, 25 square inches? Laboratory investigators are very frequently asked these two questions: "What is the value of a difference in size?"—meaning the difference between the value of a full-page in a standard-size magazine compared with a full-page in a large-size magazine—and, "What is the value of difference in size?"—meaning the difference between the value of a quarter-page as compared with a half-page. In these two cases size means quite different things.

Finally, the question of the value of size is not entirely clear for the reason that we are not sure what is meant when we ask, "Does this advertising device pay?" For example, we may ask, "Does increasing size of space pay to a degree commensurate with its cost?" or, "Does increasing size of space pay sufficiently to make it worth while to use it?" There is a great difference between these two questions. It might very well be that a full-page would not bring in four times the returns of a quarter-page, although it would cost four times as much. But if it brought in only $1\frac{1}{2}$ times as many returns as a quarter-page, it might still be said to pay if that additional 50% could not be gotten in any other way.

SEPARATING ATTENTION AND MEMORY VALUE

There is one other point that needs to be made clear before undertaking a consideration of experimental studies of the attention value of size. It is very difficult, indeed, to measure attention value independently of memory value and it has seldom been attempted. Even in the strictly controlled laboratory measurements memory value and attention value are confused. For example, one may be comparing the attention value in an experiment, where it was

measured immediately after the advertisements were seen, with others where the interval between seeing the advertisements and testing for them was five minutes, a whole day, or even a whole week. Now, if the factors influencing memory differ from those influencing attention, such comparisons could not be safely made.

SIZE DIFFERENCES MUST BE NOTICEABLE DIFFERENCES

What help can we get from the discussion of attention in the previous chapter? First, we notice that magnitude in its strict sense is one of the factors determining the involuntary sort of attention. And we have found that the fundamental condition for attention of this sort is *difference*. If one object is to attract the attention, it must be different from the other objects in its neighborhood.

If all advertisements were half-page in size, then none would have any advantage; likewise, if all were full-page in size, none would have any advantage. These statements are true on the basis of mere attention value. To the casual observer it would seem that this struggle to be different in respect to magnitude has reached a point in many publications where full-page advertising is the rule, with the result that full-page advertising as an attention device loses its potency. Its use must then be justified on other grounds.

Now all that we have said, thus far, is that the object to be attended to must be *sufficiently different*, without specifying what the actual amount of this necessary difference really is. We have found from elaborate laboratory studies how much difference in size is necessary in order that this difference may be noticed, under the most favorable conditions for observation. Perhaps here we have the basic fact upon which our interpretation of the value of mere size should rest, for certainly no difference which is not great enough to be noticed can be assumed to have an influence upon attention. "How much bigger than an eighth-page advertisement must another one be in order to take attention

away from it?" or, "How much bigger than a half-page advertisement must another one be in order to draw attention away from that?" Our answer would be that to *look* bigger than the eighth-page advertisement another would have to be approximately 5% bigger. Likewise, for an advertisement to look bigger than a half-page advertisement, it would have to be approximately 5% bigger. That is, the percentage of change necessary in the two cases is just the same. Now this conclusion is right in line with our everyday experiences of difference. For instance, probably any one would know that if he lighted one additional candle in a room previously lighted by one candle, the second would make quite a difference—100% of light has been added. But if the room were originally lighted by 100 candles, to add a single one would not make any noticeable difference. In fact, to make a difference equal to that in the first case, one would have to add 100 candles, or 100% of light, just as in the first case. That is, differences in amount of light, amount of sound, or amount of size, in order to be noticed, must be relative differences. Hence, if a quarter-page area differs in appearance from an eighth-page area by a given amount, then in order that a certain area shall appear to differ from the quarter-page by the same amount it would have to be a half-page. In the second case we would have to add twice as much area as in the first case to get the same apparent difference. Stated in another way, we may say that to secure equal amounts of noticeable difference in size we must add equal percentages of difference in area. Some investigators have found that the effect in noticeable difference lags even farther behind the change in the stimulus and prefer to express the relationship as follows: Changes in noticeable difference equal the square root of the changes in actual area. This is known as the Square Root Law of Effect, and is represented graphically in Figure 46. Whatever the actual relationship may be found to be, there is no doubt that the effect of change in size lags far behind the amount of the change.

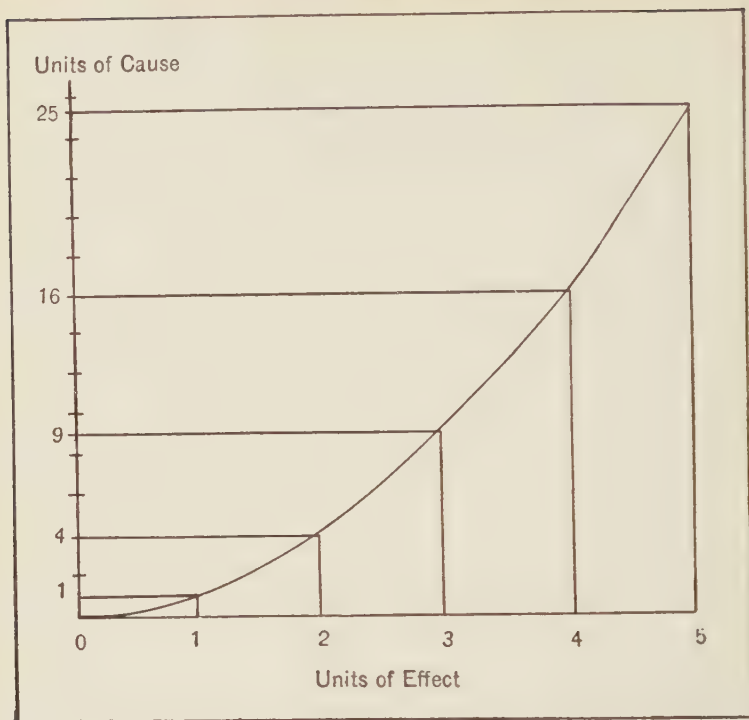


Figure 46: A schematic diagram showing the relation between change in size and effect upon attention (*See page 179*)

The application of this so-called Square Root Law of Effect would not tell us directly whether advertising space is worth what it costs. But from it we could infer that if the effect was at all comparable to the degree of noticeable differences rather than to increase in area, the increase in returns from increase of space would not be directly equivalent to the cost of the space.

We are now prepared to examine some of the actual studies of the value of the size factor in advertising, keeping in mind the fact that one cannot in most studies mark off attention value from memory value, and that certain other qualities are inseparable from size.

HISTORICAL METHOD

This method has been used by Scott, Starch, and Kitson for determining the value of a number of advertising devices. The assumption underlying this method is that what has survived in business must be useful, and further that any device that is increasingly used over a period of years must be used because its value is more and more widely recognized. Scott and Starch¹ have shown that, taking the *Century Magazine* as a sample, during the period 1872 to 1913 there has been a tendency to use larger and larger space, as shown in Table 16.

TABLE 16
GROWTH IN THE SIZE OF ADVERTISEMENTS*

Year	Average Number Lines per Advertise- ment	Year	Average Number Lines per Advertise- ment
1872	38	1900	88
1880	61	1905	114
1885	43	1910	157
1890	50	1913	169
1895	61		

*Adapted from Scott and Starch.

Kitson² has measured the increase in the use of full-page advertising in the *Literary Digest* during the years 1910-1919. His figures for this period are reproduced in Table 17, on the following page.

These and similar historical surveys do show, as we would expect, a surprising increase in the size of space used in a single advertisement and in the number of full-page advertisements. But one cannot argue directly from these figures that the returns from large space must be commensurate with the cost of the space. And, in terms of attention value, at least, the very fact that the number of full-page adver-

¹Starch, D., *Principles of Advertising*, 1923, p. 540.

²Kitson, H. D., "Minor Studies in the Psychology of Advertising," *Journal of Applied Psychology*, 1921, V, pp. 5 ff.

TABLE 17
GROWTH IN THE SIZE OF ADVERTISEMENTS*

Year	Percentage of Full- Pages	Year	Percentage of Full- Pages
1910	10	1915	18
1911	9	1916	31
1912	14	1917	36
1913	17	1918	45
1914	16	1919 (first 6 months)...	54

*Kitson.

tisements is increasing would mean that the attention value of large space is decreasing, since difference is the necessary consideration in this form of attention. Certainly in those mediums where the full-page or the double-page spread is rare the *shock of difference* should be much greater than where these sizes are a common experience. This conclusion would seem to be borne out by results obtained from mail-order catalogs where effect of space used may be carefully checked, and where the occasional use of a full-page or a colored page brings huge returns.

METHOD OF DIRECT OBSERVATION

One of the most direct studies of attention value was made by Nixon¹ in which the relative value of full- and half-pages was measured. His method might be called the method of "direct observation." It consisted in recording the eye movements of a person confronted with a series of advertisements presented in pairs and placed side by side. According to Nixon, there are two assumptions on which the method is based: "That in the presence of an interest-arousing situation, the object fixated visually may be taken to be the object of attention, and second, that of two interest-provoking situations presented simultaneously the one eliciting the longer periods of visual fixation over a given

¹Nixon, H. K., "Attention and Interest in Advertising," *Archives of Psychology*, Number 72.

period of time may be taken to possess the greater attention value. . . . The technique of the present experiment involves, in addition, the assumption that if a number of advertisements having a factor potent to attract attention are allowed to compete one by one with members of a series of advertisements not having the potent factor, the presence of the factor will manifest itself in a reliable tendency to greater attention to the first group, though there may be individual variations due to the chance influence of other factors."

The method by which the observations of eye movements were made may be understood by reference to Figure 47. "*R* is the subject's chair on one side of the table, *T*. *B* is an inclined board upon which the advertisements were placed. Behind the board was a cloth covered screen, *S*. This screen extended back at the top, forming a sort of roof, and from the back edge of this extension hung a cloth, *C*, which fell in folds to the edge of the table both at the back and on the sides, making, with the screen in front, a little light-proof booth. The experimenter was seated on the chair, *E*, and during the course of the experiment the drop

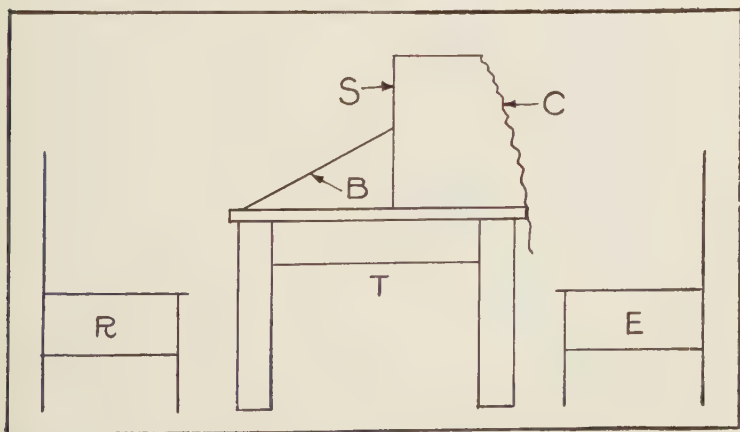


Figure 47: Arrangement of apparatus used for measurement of attention value of advertisements by Nixon

cloth, *C*, was placed over his head and shoulders so that he was within the light-proof enclosure.

"The purpose of the screen and drop cloth was to enable the experimenter to watch the subject without the latter suspecting that he was being observed. From the subject's point of view the screen, *S*, was perfectly opaque, there being no light behind it to shine through, the heavy folds of the drop cloth effectively shutting off all light from the rear. The screen, however, was made of very thin material and to the experimenter who was inside of the darkened chamber and looking out at the subject who was in the full light, the whole thing was practically translucent. The experimenter was seated within three feet of the subject; he could see every movement, every change of expression, every shift of visual fixation. The subject, however, could by no possibility see the experimenter and only by chance would he ever be led to suspect that he was being watched. As a matter of fact, out of 51 subjects used in the various experiments only 3 thought that perhaps they were being watched, but were not sure, had no idea how, and were not at all disturbed by the thought; the rest had no idea of observation at all and were much surprised when the situation was explained to them."

In his study of half- and full-pages, five other factors in the advertisements were kept constant, namely, "position, presence or absence of pictures of women, children and food, large display type versus small, color versus no color, and relevancy of illustration versus irrelevancy." In regard to the advertisement *fixated* first, he found that when a time limit for observation of a pair of advertisements was fixed at 30 seconds the ratio of full- to half-page was 1.00 to .86, and when no time limit was set the ratio in favor of the full-page was 1.00 to .92. These ratios mean that full pages received first fixations of attention about 10% oftener than half-pages. Considering the time spent on half- and full-pages during the first 10 seconds of observation, the ratios were in favor of the full-page 1.00 to .81. And considering

the time spent on the two sizes of advertisements during 30 seconds, the ratios were in favor of the full-page 1.00 to .74. On account of the large number of advertisements used and the large number of persons tested, these results have a high degree of reliability. All of his figures for attention value of size are gathered together into Table 18.

TABLE 18

RELATIVE ATTENTION VALUE OF FULL- AND HALF-PAGES*

Attention Value	Ratios Full-Page	Ratios Half-Page
First fixations (30 subjects)	1.00	.86
First fixations (9 subjects)	1.00	.92
Time spent first 10 seconds	1.00	.81
Time spent, 30 seconds (30 subjects)	1.00	.74
Time spent, 30 seconds (9 subjects)	1.00	.75
Average	1.00	.816

*Nixon, H. K.

Measured in terms of visual fixations, the full-page has the advantage over the half-page, but not in proportion to the difference in size, since the size ratio of full- to half-page was 1.00 to .50. The theoretical expectation, applying the square root relationship, would be 1.00 to .71.

Immediately after the attention test thus described, the persons tested were asked to write down all the advertisements that they could remember in the order in which they came to mind. This is the method employed in the customary Recall Memory Test. In terms of memory value thus measured, the ratios were in favor of the full-page 1.00 to .47. Here the full-page is more than twice as effective as the half-page. This ratio will be referred to again in connection with other studies of attention.

TACHISTOSCOPIC METHOD

The word tachistoscope comes from two Greek words meaning "swift view." Numerous devices for giving brief

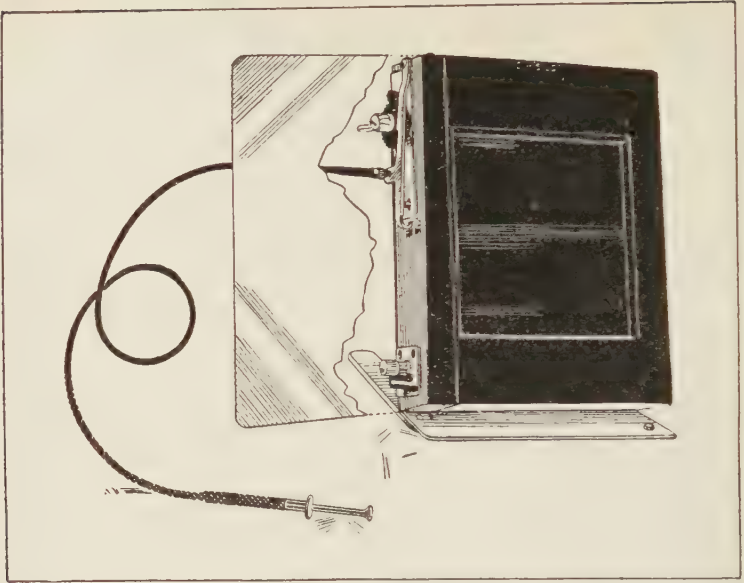


Figure 48: A shutter tachistoscope for the brief exposure of objects in tests of attention and perception

and accurately timed exposures of objects have been used from time to time in the psychological laboratory. Figure 48 shows a simple, shutter type of exposure apparatus.¹ Adams² used a very simple form of this method for measuring the attention value of size. He prepared a series of cards each containing four colors. On every card there were three colors, 1 by 1 inch in size, while the fourth color varied in size, being 1.5 by 1.5 inches, 2 by 2 inches, or 3 by 3 inches. The series of cards was exposed one at a time for a period of one-half second to each of about 300 persons who were instructed to report the first color they saw. The measure of attention value was in terms of the number of times the various colored areas were seen first. The results adapted from Adams are given in Table 19. The last column of the table gives the ratios that would be expected from the square

¹Reproduced from the catalogue of C. H. Stoelting Company, Chicago.

²Adams, H. F., *Advertising and Its Mental Laws*, 1920.

root relationship described earlier. They bear a very close resemblance to the experimental ratios.

TABLE 19
ATTENTION VALUE OF SIZE

Color	Area	Experimental Ratios	Theoretical Ratios
1 X 1 inch	1.00 square inch	1.00	1.00
1.5X 1.5 inches	2.25 square inches	1.75	1.50
2 X 2 inches	4.00 square inches	2.05	2.00
3 X 3 inches	9.00 square inches	2.75	3.00

*Adams, H. F.

The most extensive studies of the value of size have been made by memory tests where the interval between seeing an advertisement and being tested for it varied from a few moments to a month. No attempt will be made to present a complete survey of these studies. The most recent and most thorough and those best illustrating the methods of measurement will be described.¹ There is no doubt that the memory for a set of experiences or the power to reproduce it depends in large measure upon the attention that it gained. But we cannot say that attention value will be exactly equivalent to memory value. Furthermore, the relationship between memory and attention may depend upon the manner in which the memory is measured. This last question will be considered after the results of experiments have been reported. In these experiments it is assumed that the only factor which varied (regularly) was size,² that is, that the memory power of the subjects, the interval of time between exposure of material and test, and the characteristics of the advertisements other than size remained constant; hence, size differences and their influence upon attention determined the differences in result.

¹A fairly complete report of the work may be found in Starch, Daniel, *Principles of Advertising*, chap. xxiii.

²The reader should recognize the limitations of these assumptions under actual experimental conditions. As stated earlier, there may be certain qualities of an advertisement which vary regularly with size and which cannot be ruled out.

RECOGNITION METHOD

Strong¹ investigated the two factors of size and frequency in one elaborate experiment. He prepared four dummy magazines, from carefully chosen advertising material, in such a manner that after a person had gone through the four magazines at intervals of a month, he would have seen certain full-page advertisements four times, others two times, and others only once; also he would have seen certain half-page advertisements four times, others two times, and others once; and in the same way he would have seen certain quarter-page advertisements four times, others two times, and others once. The experimental conditions were, therefore, equivalent for the various sizes.

Every page in each dummy magazine contained either one full-page advertisement, two half-page advertisements, or four quarter-page advertisements. Each half-page advertisement would have one direct competitor for attention, and each quarter-page advertisement would have three, in contrast to the full-page, which would have none. Thus, each size was seen under circumstances common in magazines. Fifty-four persons took part in the experiment. With some of the subjects the advertisements were exposed at the rate of one a second, and others were allowed to look through the series at their own rate. Just one month after the last advertisement had been seen, all persons were tested to determine how many advertisements they remembered. They were given a collection of all the advertisements they had seen, plus an equal number that they had not seen, and were asked to pick out from this collection all those that they had seen. Notice that they were not required to recall what they had seen, but rather to identify what they had seen. (This recognition method will be described in detail in Chapter XX.) The figures in Table 20 show the results of this experiment when each value is expressed in terms of the quarter-page value taken as 1.00.

¹Strong, E. K., *Psychological Review*, 1914, XXI, pp. 136 ff.

TABLE 20
ATTENTION VALUE OF SIZE*

Particulars	Quarter- Page	Half- Page	Full- Page
For advertisements seen once	1.00	1.45	2.00
For advertisements seen twice.....	1.00	1.50	2.24
For advertisements seen four times.....	1.00	1.28	2.00
Average	1.00	1.41	2.15
Actual size	1.00	2.00	4.00
Theoretical	1.00	1.41	2.00

*Strong, E. K.

In all three cases it appears that the experimental value does not vary directly as the size of the advertisements, but rather that it conforms very closely to the theoretical square root relationship. The last three rows in the table give the average ratios for the three sets of conditions, the actual size ratios, and the theoretical ratios.

ATTENTION VALUE OF SIZE IN MAGAZINE ADVERTISING

Although this experiment duplicates actual conditions in many respects it differs in that the advertisements were not seen casually or spontaneously as in ordinary magazine reading, but were looked at deliberately in compliance with instructions. In order to make the experimental conditions as nearly as possible like the actual conditions under which advertisements are seen and remembered, Strong¹ carried out another test upon readers of the *Saturday Evening Post*. The method consisted simply in canvassing some 285 persons and testing those among that number who had handled the current issue of the *Post*; namely, 90 persons. They included business and professional men and women, college graduates, and college students. "When an individual was found during the canvassing who admitted he had seen the *Saturday Evening Post*, he was given a pile of advertisements containing all the advertisements in the issue of November 8, 1913 (excepting all advertisements of less than

¹Strong, E. K., *Journal of Experimental Psychology*, 1916, I, pp. 319 ff.

one inch in size) and an equal number of other advertisements which had appeared in the *Post* upwards of a year ago. The individual was instructed to look through the pile and pick out the advertisements that he had seen in that week's *Post*." That is, the recognition method was employed as in his earlier experiment. Table 21 gives the results of this experiment. All the figures are given in terms of ratios, the full-page advertisement being taken as 1.00.

TABLE 21
ATTENTION VALUE OF SIZE OF MAGAZINE ADVERTISEMENTS*

Size	Number of Adver- tisements	Size Ratios	Experi- mental Ratios	Theoretical Ratios
2 page	1	2.00	1.49	1.41
1 page	8	1.00	1.00	1.00
½ page	10	.50	.81	.71
2 columns x 8 inches.....	11	.31	.70	.56
2 columns x 6½ inches.....	22	.25	.57	.50
2 columns x 5 inches.....	4	.21	.44	.45
2 columns x 4 inches.....	8	.17	.41	.40
1 column x 7 inches.....	7	.14	.32	.37
1 column x 5½ inches.....	6	.11	.32	.34
1 column x 4½ inches.....	8	.09	.35	.31
1 column x 3½ inches.....	10	.07	.28	.27
1 column x 2½ inches.....	9	.05	.21	.23
1 column x 1½ inches.....	9	.03	.25	.18

*Strong, E. K.

The first column in the table gives the actual size, the second column, the number of advertisements of each size, the third column, the size ratio in terms of a full-page, the fourth column, the ratio in terms of recognition obtained from the experiment, and the fifth column, the ratio that would be expected from the square root relationship. One may see at a glance that the experimental results conform much more closely to the theoretical ratios than they do to the actual size ratios. In fact, the similarity between experimental and theoretical figures is surprisingly close.

This test is free from two criticisms that have been made against earlier work; namely, that the conditions under which the advertisements were seen were highly artificial and that the persons tested were college students.

TABLE 22
ATTENTION VALUE OF SIZE IN MAGAZINE ADVERTISING*

Size	Number of Adver- tisements	Size Ratios	Experi- mental Ratios	Theoretical Ratios
2 pages	5	200	1.47	1.41
1 page	60	100	1.00	1.00
1/2 page	20	50	.71	.71
1/4 page	14	25	.47	.50

*Hotchkiss and Franken.

Here no one was enlisted as a subject in the test until he had finished looking at the magazine. Each must then have seen what advertisements attracted his attention in exactly the way he ordinarily saw them. In addition, the study was not limited to college students but embraced a much wider circle of readers of which college students formed a part. It should be remembered also that all the advertisements were seen in their normal setting. A quarter-page advertisement had to compete with whatever else occupied the other three-quarters of the page as contrasted with the full-page, which could have no such competition. In spite of this fact, which constitutes a real handicap upon the quarter-page and which might well be eliminated in a comparison of bare size effect, the quarter-page is about half as good as the full-page, instead of one-fourth as good, as we might expect.

The results of this study received interesting confirmation six years later in an experiment very similar in character performed by Hotchkiss and Franken.¹ A class of 175 students in Marketing, at New York University, was given a reading assignment in a certain issue of the *Saturday Evening Post*. This article had a direct bearing upon their class work. At the next meeting 104 persons reported that they had read the article. Without any warning whatever, then, these persons were tested for their knowledge of the advertisements in this issue of the *Post*. The recognition

¹Hotchkiss and Franken, Bureau of Business Research, New York University, 1920.

method was used in a manner slightly different from the way Strong had used it, with the results given in Table 22.

The columns in this table have exactly the same meaning as those in Table 21. The figures show a remarkable conformity to expectation on the basis of the Square Root Law of Effect, with the consequent lag of attention value behind increase in size.

ATTENTION VALUE OF SIZE IN NEWSPAPER ADVERTISING

Strong¹ made a test of the influence of size of newspaper advertising by exactly the same methods as he used with the *Saturday Evening Post*. One hundred and one persons who had read a certain newspaper were tested on the evening of the same day for the advertisements they could recognize. The results are presented in Table 23 in a form slightly modified from that used by Strong.

Since the advertisements were measured in column inches, all the different sizes are, for convenience, expressed in terms of ratios of the smallest size. All the other figures have the same meaning as those appearing in the preceding tables.

TABLE 23
ATTENTION VALUE OF SIZE IN NEWSPAPER ADVERTISING*

Average Size Column Inches	Number of Adver- tisements	Size Ratios	Experimental Ratios	Theoretical Ratios
1.25 inches	59	1.00	1.00	1.00
2.25 inches	26	1.80	2.78	1.34
3.75 inches	28	3.00	2.51	1.73
6.25 inches	22	5.00	2.10	2.23
11 inches	14	8.80	3.55	2.96
43.50 inches	6	34.80	8.32	5.90

*Strong, E. K.

The resemblance between theoretical expectation and experimental results is not so close here as in the studies of magazine advertising, but the experimental results resemble

¹Strong, E. K., *Research Bulletin Number 11*, Association of National Advertisers, 1915.

the theoretical ratios much more closely than they do the size ratios. The discrepancy, however, is such as to magnify the importance of the small advertisements as well as the large. All these ratios are based on the advertisement 1.25 inches long and one column wide. There is considerable likelihood that an advertisement of this size would not be attended to at all by a large number of readers, or, in other words, that it is below the safe minimum for attention. If this is the case, all larger advertisements whose attention value was expressed in relation to this small one would have attention values too large. That such was the case appears from the original figures from which the ratios were computed. Thus the number of persons who noticed the smallest advertisement was only 1.92%, while those who noticed the next size larger (differing by only 1 inch) was 5.33% of those taking part in the experiment.

Again, this experiment of Strong was duplicated in all essential respects by Franken¹. Seven hundred people were canvassed and, of these, 102 who had read a certain issue of a daily paper were tested for their recognition of the advertisements contained in that issue. The figures in Table 24 have been compiled from the study.

TABLE 24

ATTENTION VALUE OF SIZE IN NEWSPAPER ADVERTISING*

Average Size Column Inches	Number of Adver- tisements	Size Ratios	Experimental Ratios	Theoretical Ratios
3.4 inches	22	1.00	1.00	1.00
7.6 inches	17	2.24	1.48	1.49
14.4 inches	17	4.25	1.83	2.06
22.7 inches	13	6.70	2.10	2.58

*Franken, R. B.

The experimental ratios are here much closer to the theoretical ratios than in Strong's study, while the increase in attention value lags far behind the increase in size. They support the view taken of Strong's results, namely, that his

¹Franken, R. B., Special Bulletin of Association of National Advertisers, 1920.

ratios are based on an advertisement that is below the minimum for attention value. Franken based his ratios on an advertisement 3.4 column inches in length, or nearly three times as large as that of Strong.

All the investigations thus far cited, the measurement of smallest noticeable differences in size, the attention value of different colored areas, and the attention value of magazine and newspaper advertisements, have demonstrated that with increasing size of space there does not go an equally increasing effect, but that the effect is about equal to the square root of the area. We shall now examine some investigations that bring contradictory evidence, and finally we shall attempt to reconcile these differences.

CERTAIN CONFLICTING EVIDENCE

Starch¹ conducted an experiment according to the following plan: "A person was simply asked to state briefly what advertisements he remembered having observed in the last or a recent issue of a particular magazine which he had read in his usual manner. After he had done so he was asked to take the copy of this particular issue and go through it page by page to record those advertisements which he now recognized having seen in this particular issue before." This survey covered 17 magazines and 142 persons of "the average type of intelligent reader and business man." The results are given in Table 25, where a full-page is given a value of 1.00 and other sizes are expressed in terms of ratios of the full-page.

In another experiment conducted by Starch 80 persons were asked to look through the *Saturday Evening Post*, being sure to turn every page but to look at what interested them. They were then asked to name all the advertisements they could recall having seen. The results of this experiment are given in Table 26, where the figures are all in terms of ratios of the full-page.

¹Starch, Daniel, *Principles of Advertising*, 1923, pp. 558 ff.

TABLE 25
ATTENTION VALUE OF SIZE IN MAGAZINE ADVERTISING*

Size	Space Ratios	EXPERIMENTAL RATIOS		Theoretical Ratios
		Recall	Recognition	
Full-page	1.00	1.00	1.00	1.00
Double-page	2.00	1.61	1.55	1.41
Half-page .....	.50	.09	.30	.71
Quarter-page .....	.25	.17	.21	.50

*Starch, Daniel

Newspaper advertising was tested by Starch in essentially the same fashion, that is, by asking persons to look through the advertising section of a newspaper and then, having laid the paper aside, to recall all the advertisements that were seen. In addition, the subjects were then allowed to look through the paper to find what advertisements they could *recognize* having seen but did not *recall* having seen. The figures for two newspapers are given in Table 27, where the figures are again in terms of ratios of an advertisement 26 to 50 column inches in size which is taken as 1.00.

TABLE 26
ATTENTION VALUE OF SIZE IN MAGAZINE ADVERTISING*

Size	Number of Advertisements	Space Ratios	Recall Ratios	Theoretical Ratios
Full-page	122	1.00	1.00	1.00
Double-page	21	2.00	1.31	1.41
Half-page	70	.50	.55	.71
Quarter-page	160	.25	.31	.50
6 to 8 inches	71	.14	.11	.37
3 to 5 inches	94	.08	.11	.30
1½ to 2 inches	246	.03	.03	.18

*Starch, Daniel.

The conclusion of Strong and Franken that "increase in space does not give corresponding increase in efficiency" is opposed to that of Starch, who says, "The general inference which I think may be fairly drawn from all of the experimental work thus far conducted is that, other things being equal, for general display advertising, where the attention is

TABLE 27

ATTENTION VALUE OF SIZE IN NEWSPAPER ADVERTISING*

Size	Number of Adver- tisements	EXPERIMENTAL RATIOS		Space Ratios	Theoretical Ratios
		Recog- nition	Recall		
26-50 inches	9	1.00	1.00	1.00	1.00
51 or more	4	1.16	1.50	2.34	1.53
11-25 inches	22	.50	.41	.47	.71
6-10 inches	24	.19	.15	.21	.45
2.6-5 inches	50	.06	.06	.12	.35
0-2.5 inches	99	.03	.03	.05	.23

*Starch, Daniel.

spontaneous rather than voluntary, the full-page unit is apparently the most economical space to use. It is evidently more economical than double-page units. Due consideration here should, of course, be given to the qualifying phrase 'other things being equal'! Other factors, such as the nature of the product or the business, may make it advisable to use larger or smaller space than the full-page unit, or than the units which according to the general rule would be most economical.

"The conclusion suggested by some of the experimental investigators, that the attention value of space increases more slowly than the space itself, that, in other words, small space is more economical in proportion to the area occupied than large space, is true apparently only in the case of advertisements of the classified type. And this is true only of certain types of classified advertising, for example, mail-order advertising—in which attention is voluntary and the customer or reader is definitely interested in searching for a certain commodity and hence looks through all of the advertisements with great care."

DIFFERENCES IN EXPERIMENTAL METHODS

This conclusion quoted from Starch is not justified in the light of the two studies by Strong of the *Saturday Evening Post* and the *New York Times* and the studies by Hotchkiss

and Franken of the same two mediums. These four studies are not discussed by Starch. They are entirely free from the criticism which held against earlier work, and their conclusions cannot legitimately be limited to certain kinds of classified advertising. The explanation of the differences should be sought in the methods used, rather than in the type of advertisement to which the conclusions apply. Now both groups of investigators seem to have been interested in "attention value" and that, likewise, is what the advertiser himself has most frequently been interested in, whether wisely or not. Strong and Franken measured attention value in terms of recognition, while Starch measured it primarily in terms of recall. These two memory methods do not measure the same facts, nor does either one necessarily measure the memory value of an advertisement in which the advertiser should be most interested. This question of how memory value should be measured will be raised and discussed in a later chapter. We will inquire here merely which method measures attention value most adequately. In the investigation of Nixon, reported earlier in this chapter, where attention value was measured directly, it was found that there was quite a difference between attention value and recall value for full-pages and half-pages. These figures may be repeated here:

Method	Full-Page	Half-Page
Attention value	1.00	.82
Recall value	1.00	.47

Measured in terms of recall a full-page is worth slightly more than twice as much as a half-page; measured in terms of attention it is worth about 20% more. If it could be shown, therefore, that recognition measures attention more adequately than recall, we would have an explanation of the differences. Now one who understands the recognition process would certainly expect that it would be more closely correlated with attention than would recall. One practically always sees more than one remembers and one prac-

tically always recognizes more than one recalls. Recognition gives a more complete picture of what has been attended to than does recall. In fact, merely to have seen is often sufficient to enable a person later to know that he has seen, but merely to have seen is not to the same extent sufficient to enable one to recall without aid of any sort what one has seen. If knowing were thus correlated with attention, learning in every-day life would be a much simpler task than it is.

But Starch, in two or three of his studies, measured the recognition value of advertisements of different size immediately after he measured the recall value. His technique for measuring recognition differs in two respects from that used by the other investigators. After having recalled all that he could, each person was given the copy of the magazine in order that he might look through it and report what he had seen before. If it should happen that a person could recall certain advertisements that he could not recognize, these would be added to his recognition score if the latter is measured immediately after. Just such an occurrence vitiated an experiment conducted at one time by the writer. But more important is the fact that recognition requires merely the statement "yes" or "no," "I did" or "I did not" see it. That is, if a person were to guess, he would, in the long run, have a fifty-fifty chance of being right. But he might be guessing, not as to whether he had seen the advertisement before, but merely as to whether he had seen it in this particular medium. It is quite conceivable that failure to check against familiarity from previous contact might favor the larger rather than the smaller advertisements. In fact, the conclusion from the figures of Nixon, that large advertisements are remembered more than twice as well as others half their size, would seem to give just this advantage to a recognition test not checked against guessing.

Strong and Franken in their studies of size used checks of this sort, although their methods of doing so were not

exactly the same. The technique of recognition experiments will be treated in detail in a later chapter on memory.

CONCLUSION

The conclusion that the writer would draw from this very complex mass of data is about as follows: The more completely one isolates the factor of attention and measures it, the more nearly do one's findings conform to the statement that the effect of increasing size always lags behind the actual increase in size. The so-called square root relationship is a convenient expression for the actual relationship. But the more one departs from the measurement of mere attention, by the addition of such factors as memory, prestige, location, previous familiarity, and so forth, the more does the large-space value increase in proportion to the small. Although, naturally, the advertiser is finally most interested in the total power of his advertising, he should also be interested in knowing how well it measures up in the various aspects of its total power. *To know that a large space merely by virtue of the fact that it is large does not carry great attention value means that in large-space advertising it is not safe to neglect other attention devices any more than it is safe to do so with small-space advertising.*

IX

ATTENTION AND REPETITION OF ADVERTISEMENTS

Memory a factor in attention power of repetition. Interaction of the strange and the familiar. Repetition within an advertisement. Repetition and duplication of circulation. Cumulative effect of repetition. Effect of repetition of identical and varying material. The use of identical and varying advertisements. Value of repetition not affected by size. Relative value of repetition and magnitude. Results from advertising campaigns.

REPETITION and its influence upon the effectiveness of an advertising campaign, like magnitude, has always been a matter of primary interest. This is undoubtedly due to the fact that repetition is measurable directly in terms of dollars of cost. In general, to repeat an advertisement costs twice as much as to present it just once. It is a very live advertising problem, whether, given a certain amount of money to spend on the advertising of a specific product, it should be spent on a few large displays, or whether better results might be obtained by smaller space used more frequently. Furthermore, that other vital question of the effect of duplication of circulation is bound up with the effects of repetition. Is duplication of circulation necessarily a duplication of readers of an advertisement, and if so, is that something to be avoided?

MEMORY A FACTOR IN ATTENTION POWER OF REPETITION

Some help in solving this complex problem may be gained from an examination of it in the light of our knowledge of attention. What influence does repetition of a stimulus have upon its power to attract the attention? It must be clearly understood at the outset that it will be practically impossible even in laboratory studies to isolate the effects

of attention entirely from the effects of memory. Just as in the case of magnitude, we may say that attention is the determining factor when the influence of memory is reduced to a minimum or when the memory factor is kept constant. First of all, then, in order that repetition, which means repeating a stimulus after intervals of rest, may have any effect at all upon attention we must assume that some traces of earlier repetition or of the first presentation of the stimulus must carry over. Now it is just that carrying over of an effect through an interval of rest that constitutes memory.

INTERACTION OF THE STRANGE AND THE FAMILIAR

Why should repetition as just defined be a factor at all in attracting the attention? If we go back to our description of attention in Chapter VII we find that there are two sets of causes of attention, and at first sight these two seem to be antagonistic. × First, there is the attention which is attracted to what is different, the loud noise in the midst of silence, the large object looming up among small objects, and so on. Then there is the kind of attention which is due to a sensitizing of our brain mechanisms so that a stimulus to which we are thus tuned receives a more ready reception, is met half-way, in contrast to another to which one has not been tuned. Now the sensitizing process we found to go on in the individual as well as in the species of which the individual is a member. If we examine how this sensitizing process takes place, we discover that repetition of an experience is one of the potent factors in producing it. But repetition of a stimulus must certainly reduce its newness, strangeness, hence its difference—the very factor on which its attention power at first depended. It is true that these forces do to a certain extent work against each other, but the antagonism is not as serious as we might expect. For, if the new or novel situation is absolutely new, it may escape our attention altogether. It is the element of

newness in the familiar or the hint of the familiar in the new that attracts attention. There are illustrations of this on every hand. We are indeed interested in that with which we are familiar, but when too familiar the object may drop entirely out of our range of attention. Thus a new clock in one's room will force attention upon it, but after a few weeks at the most the tick or even the striking of the clock will not attract attention. At this point the stopping of the clock will rather attract the attention. The feel of a new suit of clothes with its strange pressure in unaccustomed places and lack of pressure in other places soon becomes a part of us and no longer attracts our attention. On the other hand, the entirely new escapes us. All the glory of the woods to the woodsman is lost to the casual visitor; the stories that are told by rocks, plants, and insects are lost upon any but those who are sensitized to them. William James¹ expresses the idea beautifully in the following passage: "Men have no eyes but for those aspects of things which they have already been taught to discern. Any one of us can notice a phenomenon after it has once been pointed out, which not one in ten thousand could ever have discovered for himself. Even in poetry and the arts, some one has to come and tell us what aspect we may single out, and what effects we may admire, before our esthetic nature can 'dilate' to its full extent and never 'with the wrong emotion.' In kindergarten instruction one of the exercises is to make the children see how many features they can point out in such an object as a flower or a stuffed bird. They readily name the features they know, such as leaves, tail, bill, feet. But they may look for hours without distinguishing nostrils, claws, scales, and so forth, until their attention is called to these details; thereafter, however, they see them every time. In short, *the only things which we commonly see are those which we preperceive*, and the only things which we preperceive are those which have been labeled for us, and the labels stamped into our minds. If we lost our stock of

¹James, William, *Principles of Psychology*, Vol. II, p. 443.

labels we should be intellectually lost in the midst of the world."

It would seem from the characteristics of the situation process that in advertising, as elsewhere, in attracting the attention one must preserve just the proper balance between the new and the familiar in order to get the maximum results. We must bear in mind also the fact that for the sake of memory value, which is not entirely coordinate with attention value, repetition is important, so that one might well use repetition for that purpose and depend upon newness or difference gained in some other manner for attention value. For the advertisement works as a whole and one of its functions must not be sacrificed in favor of another unless justified by the relative importance of the latter.

REPETITION WITHIN AN ADVERTISEMENT

One rather interesting case of repetition is sometimes found in advertising copy—namely, repetition within the same advertisement. Illustrations are presented in Figures 49 and 50. In the former the same units are repeated, while in the latter there is a repetition of the main theme, with variation introduced by way of a series of changing statements. Such devices may have attention value because of the novelty of the presentation—they are certainly different from advertisements that do not use them. They would be effective as long as they constitute a real novelty—that is, until used by too many other advertisers. Further, the repetition of the same item may mechanically hold the attention a little longer than would be the case otherwise, on account of the tendency for the attention to fluctuate. Such a scheme furnishes a series of items over which the eye will naturally travel. In the first illustration (Figure 49) this movement is assisted by the heavy black line connecting the three units and the illustration of the container. The chances are that one's attention is first attracted to one or more of the heavy black triangles and from there is carried



Purity

Rolled Oats

GIVE the kiddies this new breakfast.

Purity Oats is so delicious that it *makes* them eat. Serve it,—and see! See how they take to that delicious flavor,—so nut-like, so sweet. See how eagerly they put away those perfect flakes,—so tender they melt in the mouth.

The Purity Process is a new process. It takes the kernel of the oat, greatest of grains,—and it steams, rolls, flakes, toasts this kernel. The flake that results is something absolutely new, totally different,—a real treat! And it cooks *right* in 20 minutes. Buy a package from your grocer. See for yourself.

PURITY OATS COMPANY
Branch American Hominy Co.
KEOKUK & DAVENPORT, IOWA

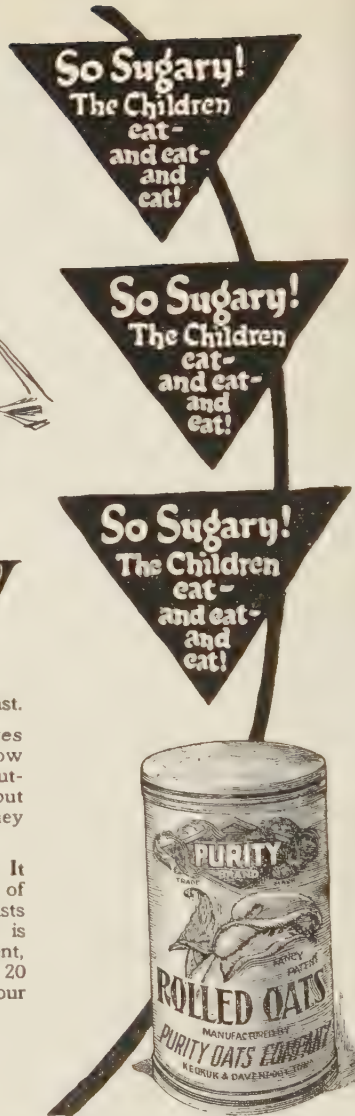


Figure 49: An interesting use of repetition within an advertisement for attracting and controlling the attention (See page 203)

down by the shape of the triangles themselves and by the line to the article advertised.

REPETITION AND DUPLICATION OF CIRCULATION

The most important aspect of repetition from the psychological point of view concerns the influence of successive experiences of an advertisement upon its attention value. This is more specific than the question of duplication of circulation because we cannot assume actual repeated experience in a case of all duplicated circulation. In fact, one reason for duplication of circulation may be simply that it increases the chances of a given advertisement's being seen. This is especially true in the case of very small advertisements, where the element of chance is important.

CUMULATIVE EFFECT OF REPETITION

Adams¹ tested the effect of repetition upon attention by the use of the tachistoscope experiment on 67 people. He prepared cards each containing three colors and a picture. In certain cases there would be two cards with the same picture, in other cases three, and in still other cases four. These cards were exposed one at a time for a fraction of a second and the persons were asked, after each card had been shown, what they had seen. Thus a record could be obtained of the attention power of a picture appearing once, twice, three times, or four times, in terms of the number of times it was reported by the 67 people. Furthermore, one could find the attention value at the first, at the second, at the third, and at the fourth exposures. That is, this experiment would show not only the cumulative effects of repetition but the value of each succeeding repetition. Table 28 gives these two sets of results, where all the figures are in terms of ratios of the value of the first appearance of a picture.

¹Adams, H. F., *Advertising and Its Mental Laws*, 1920, pp. 110 ff.

-fastest growing cigarette in America

Want to know WHY ?

smoke a



-Wow! Taste the difference!

smoke a



-They Satisfy!

smoke a



-Rich Turkish aroma! You bet!

smoke a



-They Satisfy!

smoke a



-Barley and other choice
tobaccoes! Great!

smoke a



-They Satisfy!

smoke a



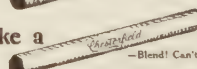
-Blend! You can't beat it!

smoke a



-They Satisfy!

smoke a



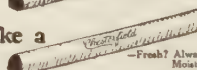
-Blend! Can't even copy it!

smoke a



-They Satisfy!

smoke a



-Fresh? Always!
Moisture-proof package!

smoke a



-They Satisfy!

W.D. & H.O. Wills Tobacco Co.

Figure 50: Repetition with variation within an advertisement, a device for attracting and holding the attention (See page 203)

TABLE 28
INFLUENCE OF REPETITION UPON ATTENTION*

Effect	Number of Appearances			
	1	2	3	4
Cumulative effect	1.00	1.96	2.69	3.36
Effect per appearance	1.00	.96	.73	.67

*Adams.

From these figures it is seen that each appearance adds a certain attention value to a picture so that two appearances are better than one, and so on. But at the same time there is a steady falling off in the value of succeeding repetitions. The second row of the table shows just what is the value of a repetition when it is a second one, a third one, or a fourth one. This falling off in value can scarcely be attributed to increasing familiarity with the picture, thus making the picture less likely to capture the attention. In this case the attention was guaranteed by the instructions, and the subjects were cooperating in their attempt to report as much as they could. In such a case familiarity ought to guarantee the maximum effect of the exposure. We have a result then which is not to be explained by the conflict between familiarity and newness, but is just a plain measure of the decreasing efficiency of repeated experience.

The same investigator¹ conducted an experiment with actual advertising material in which memory played a very small part although not reduced to the minimum as in the preceding case. He prepared a group of advertisements in the form of a booklet in which some appeared only once, some twice, and some four times. Forty persons were asked to look through this booklet at their own rate and immediately after doing so were requested to report what they remembered having seen. The records of the experiment were in terms of the number of times each advertisement was reported by the members of the group. In Table 29 these values are in ratios of the number of times the adver-

¹Adams, H. F., *Advertising and Its Mental Laws*, 1920. pp. 235 ff.

Between you and high fuel bills



THIS is the secret of comforting warmth in the coldest weather, at lowest fuel cost:

The basement that is walled and ceiled with Sheetrock, the *fireproof* wallboard, enables a good furnace to do a better job.

Sheetrock gives you the natural insulating qualities of solid gypsum rock. It seals the heat in and keeps the cold out. It makes thick, tight-jointed and permanent walls and ceilings, proof against cold and damp and fire.

What Sheetrock will save you

in fuel is not its only economy, either. Its first cost is low, it is inexpensive to erect, comes all ready for use—just nail the broad, high sheets to the joists or studding—and costs nothing at all to maintain. Equally valuable in new construction, alterations and repairs.

Sheetrock is inspected and approved by the Underwriters' Laboratories, Inc. It takes any decoration—best of all, Textone, the Sheetrock decorator.

Sold by your dealer in lumber or builders' supplies. Made *only* by the United States Gypsum Company. Write for a sample and our free illustrated booklet, "Walls of Worth."

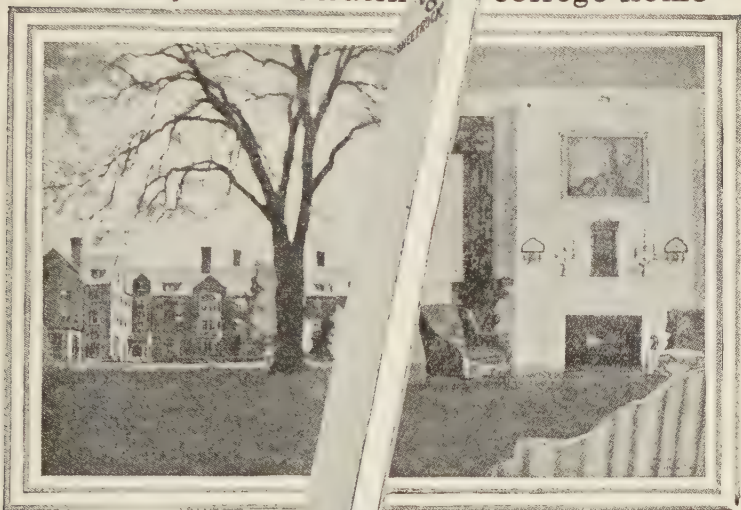
UNITED STATES GYPSUM COMPANY
General Offices: 201 West Monroe Street, Chicago

SHEETROCK

The **FIREPROOF** WALLBOARD

Figure 51: One of a series of advertisements, in which certain factors are repeated and others varied (See page 213)

When they build a modern college home



DOWN at Mt. Holyoke, that fine New England college for women, they have just completed a residence hall that expresses modern college building at its very best.

Every provision is made for architectural beauty and character; every provision, too, for the comfort and safety of the students.

The walls and ceilings of this splendid structure are made of Sheetrock, the fireproof wallboard.

Thus every room is lined with solid gypsum rock—lasting and safe. Thus the entire building is perfectly insulated, guarded against extremes of heat and cold, and

built to utilize the full values of heating plant and fuel. Thus is secured the cleanly charm of smooth, tight-jointed, accurate walls and ceilings.

Sheetrock brings all these qualities to new construction, alterations and repairs, for homes, for public buildings, offices, warehouses, stores. It gives you them at low cost. Sheetrock comes all ready for use and is easily erected; just nail the broad, high sheets to the joists or studding. It takes any decoration—especially Textone, the ideal Sheetrock decorator. It is non-warping, sound-proof, vermin-proof, fireproof.

Your dealer in lumber or builders' supplies sells Sheetrock. Only the United States Gypsum Company makes it. Write us for a sample of Sheetrock and a free illustrated copy of "Walls of Worth."

Sheetrock is inspected and approved by the Underwriters' Laboratories, Inc.
UNITED STATES GYPSUM COMPANY
 General Offices, 201 West Monroe Street, Chicago

SHEETROCK

The **FIREPROOF** WALLBOARD

Reg. U. S. Pat. Off.

Figure 52: This advertisement should be compared with Figure 51 to discover the constant and varying factors. (See page 213)

tisements appearing only once were reported. The last figure in the second row is the value to be attached to the third and fourth repetitions taken together, since it is not possible to measure them separately in this experiment.

TABLE 29
ATTENTION VALUE OF REPEATING ADVERTISEMENTS*

Effect	Number of Appearances		
	1	2	4
Cumulative effect	1.00	1.49	2.60
Effect per appearance	1.00	.49	1.11

*Adams.

There is the same lag apparent here in the attention value of succeeding repetitions, although if the value attached to the third and fourth taken together be divided into two parts it would appear that each one is worth more than the second repetition. But it is quite evident, in spite of this discrepancy, that 4 appearances are not worth 4 times as much as one, in attention value, but only about $2\frac{1}{2}$ times as much.

EFFECT OF REPETITION OF IDENTICAL AND VARYING MATERIAL

In this experiment the advertisements used for the repetition effect were exact duplicates. In another experiment by the same author, different advertisements of the same firm were used instead of exact duplicates. In other respects the experiment remained the same. In the report of this study no account is given concerning the degree of resemblance among the advertisements representing a given firm. But the name of the firm at least constituted one identical factor, and it is very likely that there were other kinds of continuity running through the series.

The results are given in Table 30. For purposes of comparison the data concerning cumulative effect when the advertisements are identical are repeated in this table.

TABLE 30

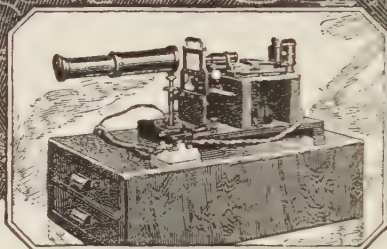
ATTENTION VALUE OF IDENTICAL AND VARIED REPETITION*

Repetition	Number of Appearances		
	1	2	4
Identical	1.00	1.49	2.60
Varied	1.00	2.63	4.05

*Adams.

Not only does repetition of varied advertising in this experiment show no lag as when the advertising is identical, but there is actually an increase of value beyond the increase in number of appearances. This may be due in part to the interplay of newness or novelty and familiarity. In addition, some of the effect may be the result of the fact that the modification in the advertising may attract a portion of the group of subjects that remained unaffected by an earlier presentation. This is a matter of no small importance. With the use of repetition of identical advertisements containing a given appeal we may expect those who are the audience to remain the same. At the first presentation those most susceptible will react; at the next presentation those who are less susceptible will react; and finally those least susceptible will succumb. Not only has each repetition left the more difficult cases to be stimulated but the group itself has been getting smaller and smaller. These two factors are probably reflected in the reduced effect of each succeeding presentation. The use of varying appeals in the different advertisements with certain aspects held constant, opens up a constantly widening audience by attracting those whom earlier appeals left untouched. This growing audience, together with the cumulative effect upon the original audience, would account for an increase in attention value more rapid than the number of repetitions. That is, by the use of varied advertising one may get all the value of repetition itself, plus a probable added effect from the novelty introduced, and also may add to the range of his audience with each additional advertisement of the

ELGIN TAKES THE TIME FROM THE STARS AND PUTS IT IN YOUR POCKET.



Did you ever see an artificial star?

NO one knows the infinite number of the stars. Surely it would seem that there would be no need for man to make still others for himself.

Yet could you come to the Elgin Time Observatory you would see an "artificial star"—part of the "personal equation" machine which is illustrated above.

The personal equation machine records the "equation" of the astronomer's nerve reactions, and establishes a positive check on all his star readings.

It is from these star readings that Elgin gets the absolute time standards by which every Elgin watch is made and timed.

In a very literal sense Elgin takes the time from the stars and puts it in the pocket or on the wrist of every owner of an Elgin watch.

* * *

But, you may say, is it necessary—this expense and trouble?

Elgin could get along without the Time Observatory.

But Elgin watches would not be Elgin watches without it. The feeling for supreme accuracy which radiates from the Observatory to every corner of the Elgin workshops would be missing.

Elgin's vision of its obligation to the buyers of Elgin Watches would be incomplete.

Your jeweler will tell you that people are buying better and better watches. The ideals for which the Elgin Observatory stands are making themselves felt the country over.

ELGIN

The Professional Timekeeper



"The new 'Corsican' Elgin—with the famous Lord Elgin movement—21 Jewel—thin model, eight adjustments, cased and timed by Elgin in engraved 14-Karat cases of new exclusive design in either white or green gold—\$275. In attractive gift boxes.



ELGIN NATIONAL WATCH COMPANY, ELGIN U.S.A.

Figure 53: The use of a uniform layout and style of illustration to obtain continuity in a series of advertisements. Compare with Figure 54.

ELGIN TAKES THE TIME FROM THE STARS AND PUTS IT IN YOUR POCKET.



THE OLD HOMESTEAD OF FATHER TIME

ALL that we know about time the astronomers have taught us. The only absolute measure of time is the stately procession of the stars as the revolution of the earth brings them across the zenith.

But, for convenience in the everyday affairs of men, "time" must always mean what our watches tell us of the passing human hours, minutes and seconds.

So one of the great practical services of the astronomer today is to contribute star-time precision to the making of watches for men and women.

And as the Elgin Professional Watch Makers are never satisfied to do anything by halves, years ago they established a Time Observatory at the Elgin Watch Factory, for the sole purpose of taking star observations. And so supplying the most precise time standards to the making of Elgin Watches.

All through the Elgin Factories the electric sounders are reproducing the ticks of the Observatory Master Clock, checked by star-time.

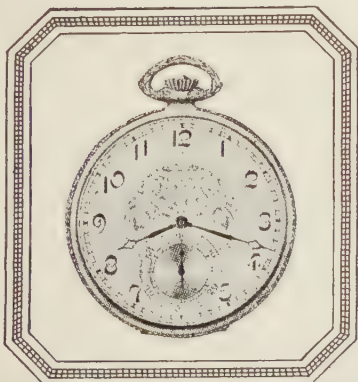
Every process in adjusting and timing the Elgin Railroad Watch carried by the conductor and engineer of your morning train was performed in the light of these standards.

So, too, with your own pocket watch; your Elgin Strap Watch; the Elgin Wrist Watch you give to wife or daughter. Not a single watch ever comes from Elgin but gains in professional time-keeping character from the work of the Elgin Time Observatory.

Nor is this all. To every man and woman in the Elgin factories, the Time Observatory is an inspiration—a constant reminder of their obligation to all who buy Elgin Watches.

The watch-owner, too, feels the inspiration in higher understanding of timekeeping standards, and the desire for better and better watches.

And the Time Observatory of the Elgin Watch comes in a peculiar and literal sense to be the "Old Homestead of Father Time."



ELGIN

The Professional Timekeeper

The new model—extra thin Elgin "Streamline"—17 Jewel—adjusted, in white or green engraved, or plain polished green, 14-Karat gold-filled case—\$40. In attractive gift boxes.



ELGIN NATIONAL WATCH COMPANY, ELGIN U.S.A.

Figure 54: Continuity in a series of advertisements obtained through layout and style of illustration. Compare with Figure 53.

series. This one study is, indeed, a very meagre bit of experimental evidence upon which to base any extensive generalization, but the data are supported by the theoretical analysis presented at the beginning of the chapter.

THE USE OF IDENTICAL AND VARYING ADVERTISEMENTS

Starch¹ made an analysis of the advertising of 130 national advertisers in order to discover the extent to which familiarity combines with novelty. His figures are interesting:

- 41% had no repeated features.
- 10% used characters such as the Gold Dust Twins, or the Cream of Wheat character.
- 20% obtained uniformity through identical layout.
- 25% depended on the use of one kind of type.
- 4% repeated their trade-mark in a conspicuous position.

Forty-one percent of the 130 national advertisers did not take advantage of the increased attention value to be obtained by the use of the familiar in the midst of the novel or the novel in the midst of the familiar.

Figures 51 and 52 are two advertisements for Sheetrock showing interesting continuity. A section of the commodity itself occupies the same position in the two pages; the trade name at the bottom of the page appears in the same type-face, and illustrations in the same style occupy the upper half of each page. In Figures 53 and 54 the continuity is effective though less obvious. It is provided by the general form of layout, typography, and illustration.

VALUE OF REPETITION NOT AFFECTED BY SIZE .

The elaborate experiment carried out by Strong² and quoted in connection with our discussion of the influence of magnitude contains interesting data on the effect of repeti-

¹Starch, Daniel, *Advertising*, 1914, pp. 178 ff.

²Strong, E. K., *Psychological Review*, 1914, XXI, pp. 136 ff.

tion. Memory is a much more important factor in this study than in the others described because all reports of what was seen were deferred one month from the original experience. But since the memory was measured in terms of recognition, the results should come closer to those expected from a pure attention study than one might at first expect. Certain of his advertisements were seen but once, certain others twice, and certain others four times. There were, in his series, advertisements varying in size from quarter-page to full-page. Taking the value of one appearance as 1.00, regardless of size, we have the ratios of Table 31.

TABLE 31

THE INFLUENCE OF REPEATING IDENTICAL ADVERTISEMENTS*

Size of Advertisement	Number of Repetitions		
	1	2	4
$\frac{1}{4}$ page	1.00	1.22	1.73
$\frac{1}{2}$ page	1.00	1.26	1.53
1 page	1.00	1.24	1.58
Average	1.00	1.24	1.61

*Strong.

Considering the nature of this experiment and the number of variable factors which are always difficult to control, it is surprising to find the ratios for the different sizes to be so nearly the same.

Strong says, "There is no appreciable difference between $\frac{1}{4}$ -page, $\frac{1}{2}$ -page, or 1-page space as far as the relative increase of permanent impression is concerned due to repetition. In other words, repetition increases the value of one presentation of the three-sized advertisements in the same way by adding one-fourth more with a second presentation, and two-thirds more with three more presentations."

The last row of Table 31 shows the average of the three sizes. Comparing these average figures with those of Adams for repetition of identical material, we find that Adams' values are somewhat higher (see Table 32).

TABLE 32

COMPARISON OF STRONG'S AND ADAMS' FIGURES FOR REPETITION OF IDENTICAL MATERIAL

Author	Number of Repetitions		
	1	2	4
Strong	1.00	1.24	1.61
Adams	1.00	1.49	2.60

The main difference between the two studies is that in Strong's experiment the interval between the last presentation and the test was one month, and in Adams' experiment the interval was about 10 minutes. All the studies thus far presented show that successive repetitions of identical advertisements have a decreasing attention value. Strong's figures suggested to him that the effect of repetition varied as the cube root of the number of repetitions, as indicated in the following comparisons:

Method	Number of Repetitions		
	1	2	4
Experimental results	1.00	1.24	1.61
Theoretical	1.00	1.26	1.59

RELATIVE VALUE OF REPETITION AND MAGNITUDE

The results obtained by Adams would not fit this hypothesis so neatly, but both studies would suggest that repetition of identical material would be less effective than using the same total amount of space in one large advertisement. The data of Strong furnish a direct comparison between the influence of magnitude and repetition. Table 33 contains all the figures necessary for such a comparison.

All the figures in Table 33 are expressed in terms of the quarter-page presented once, hence any one ratio is directly comparable with any other. Thus we find that within the limits of this experiment a half-page presented once is worth more than a quarter-page presented twice when the same audience is reached by both quarter-pages. However, if

TABLE 33
RELATIVE VALUE OF MAGNITUDE AND REPETITION*

Number of Presentations	SIZE OF ADVERTISEMENT		
	Quarter-Page	Half-Page	Full-Page
1	1.00	1.45	2.20
2	1.22	1.83	2.73
4	1.73	2.22	3.47

*Strong.

different audiences are reached by each quarter-page (in which case we would not have real repetition as the term has been defined) the quarter-page used twice would be the best of all, since its value would be 2.00, while that of a half-page used once would be 1.45 and that of a quarter-page used twice would be 1.22. That is, wherever the repetitions cover the same group of people, the larger sizes of advertisements have the advantage over smaller sizes repeated.

The facts just noted lend some support for the frequent use of small space in newspapers and similar publications. Wherever there is a small chance of an advertisement being seen, running that advertisement twice will increase its chances of being seen. It is for this reason, no doubt, that advertisers frequently run the same piece of advertising on different pages of the same newspaper. A recent pamphlet on newspaper advertising contained the following statements: "It is not claimed for any advertising medium that all the advertising will be read. The newspaper cannot promise that every advertiser will get the attention of every reader. But the more frequently the advertiser tries for that constantly available attention—casual as it may be in many instances—the greater his chances for obtaining and holding it finally."

THE OPTIMAL INTERVAL BETWEEN REPETITIONS

There is one other question that might well be raised in connection with a discussion of repetition, and that is the

size of the interval between repetitions. Advertisements can be repeated daily in the newspapers, or even twice daily where there is a duplication of circulation of morning and evening papers; they can be repeated on alternate days in the same newspaper; in certain magazines and newspapers they can be repeated biweekly; and in the monthly magazines they can be repeated at any intervals in units of one month. Is there an optimal time interval between presentations of such material as advertising? Obviously, as stated earlier, in order that repetition shall be a factor at all in attention or memory, some effect must carry over the interval between one appearance and another. If the interval were so long that all impressions were lost, repetitions would have no cumulative effect. On the other hand, there is some evidence that the optimal interval is not necessarily the shortest interval, because it takes some time for any kind of material to "set." No absolute rule can be laid down in this matter, since laboratory experiments have shown that the optimal interval between repetitions depends upon the kind of material, the amount of material, the manner in which it is presented, and the time allowed for observing. It is futile, therefore, at this stage of our knowledge to present curves from laboratory studies with the hope of following them in advertising procedure. There is one study by Strong¹ in which the problem was to determine the optimal interval between repetitions for advertisements. Repetitions occurred at intervals of a few minutes, one day, one week, and one month. Results are given for two and four presentations, at these different intervals. The effects of these varying conditions were measured in terms of the number of advertisements recognized four months later. Table 34 contains the results.

For each interval, one presentation is given the value of 1.00 and the value of two and four repetitions is in each case expressed in terms of a ratio. The author concludes

¹Strong, E. K., "The Factors Affecting a Permanent Impression Developed through Repetition," *Journal of Experimental Psychology*, 1916, I, pp. 319 ff.

TABLE 34
INFLUENCE OF REPETITION INTERVAL*

Number of Presentations	INTERVAL			
	Few Minutes	One Day	One Week	One Month
One presentation	1.00	1.00	1.00	1.00
Two presentations . . .	1.58	1.47	1.39	1.20
Four presentations . .	1.82	1.78	2.02	1.51

*Strong.

that the interval of one week gives the best results, that next to this stand the intervals of a few minutes and one day which differ only slightly from one another, and that the interval of one month stands last. Certain facts that do not appear in the condensed table should be taken into account in interpreting these results. There were differences in the relative value of these intervals according to the size of the advertisement, and furthermore certain differences appeared according to the interval between the last presentation and the recognition test. Such variables as these would have to be considered in making any practical application of the data. The one conclusion that does seem to be fairly well established from these figures is that when the effect of seeing advertisements is to last over a moderately long period, the interval of one week seems to be the most favorable.

RESULTS FROM ADVERTISING CAMPAIGNS

When we pass from the theoretical and experimental situations to opinions derived from advertising practice, we meet disagreement and uncertainty. The objective measurements, in terms of which the effectiveness of a series of advertisements is expressed, are often inadequate and the one factor of repetition is so involved with other concomitantly varying factors that effects cannot be safely attributed to it. The following analysis of a repeated series of advertisements, measured in terms of inquiries, will illustrate the complexity of the problem and at the same

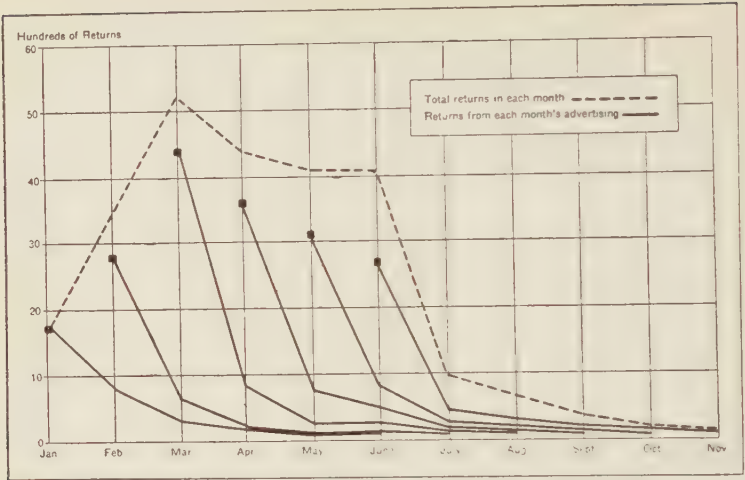


Figure 55: The effect of repetition measured in returns

time furnish an instance of excellent treatment of such objective data.

Freyd¹ studied the returns from the first six advertisements in campaigns for two different products in a total of fifteen magazines. It is inferred from the report, although not explicitly stated there, that the advertisements varied one from the other but at the same time preserved certain well-defined similarities—what we have called repetition with variation. Figure 55 shows the facts obtained from his analysis. The dotted line indicates the total returns over a period of eleven months beginning with the month in which the first of the six advertisements was seen. The height of this curve for any month may be translated into returns by reference to the vertical scale on the left, which is in terms of one hundred inquiries taken as a unit. The returns for each separate advertisement are indicated by the solid lines, the black square marking its strength at the end of the first month. The first interesting fact to be observed is the continued response from any one adver-

¹Freyd, Max, "Finding the Peak of Drawing Power," *The J. Walter Thompson News Bulletin*, August, 1923, p. 11.

tisement over a period of about six months. For instance, the first advertisement run in January was still bringing returns in July, and the last run in June was bringing returns in November.

A second interesting fact appears in the mounting values for the first three advertisements—the second is better than the first, and the third is better than the second. From the third one on, there is a falling off in strength. This cumulative change in the first three advertisements is not the result of especially good advertisements used for these months, as the same phenomenon appears in the campaigns for the two separate products. It is hardly likely that the best advertisement should occupy third place in both campaigns.

We are undoubtedly dealing here with a real cumulative growth in power from repetition. Replies to the third advertisement are due not merely to the power of that one but to the influence also of the two which preceded it. Results comparable to this were obtained in the experiment of Adams and reported on page 211. Just why the curve should descend after the third advertisement is not clear. Of course, the potential market appealed to must eventually be exhausted. The fact that the first signs of this exhaustion should occur in the fourth month may be the result of a number of influences, such as the nature of the product advertised, the season of the year, the mediums used, and so forth. The curve for total returns per month (dotted line) is what is usually charted, and, aside from the speeding up during the first three months, shows the customary "diminishing returns."

X

ATTENTION AND LOCATION OF AN ADVERTISEMENT

Isolation. The factors involved in isolation. The attention value of isolation. Isolation improves a poor advertisement. The influence of position on a page. Range of vision and range of attention compared. Influence of habit on the course of attention. Antagonism between two sets of habits. Attention value of different sections of a page. Attention value of right half and left half of a page. Attention value of right- and left-hand pages. Attention to a newspaper page. The influence of position in the medium. An objective survey of reading habits. Inferring reading habits from interests. Group differences in interest. Experimental evidence of the influence of position. Influence of the number of advertisements. Influence of position in a group of advertisements.

OUR examination of the attention value of magnitude disclosed the fact that it depended in part upon the actual experience of difference which large objects arouse in contrast with small objects. We found, however, that other factors were involved. One of these is the fact that with the use of larger and larger space—of a larger and larger proportion of a page—there is a corresponding reduction in the amount of competition that a given advertisement must resist. The whole problem of attention may therefore be viewed from the point of view of resistance to distraction. That advertisement will be attended to most effectively, which not only has the greatest attention-attracting power, but which because of its position or any other influence is most free from the danger of distraction. Granted that a certain page of an advertising medium will be seen, then if there is only one advertisement on that page, it will surely be seen; if there are two advertisements on the page, the chances are somewhat less; if there are four, the chances are still less, and so on, until there is little likelihood of the advertisement's being seen at all.

ISOLATION

What holds for a page, as a whole, will hold, to a smaller degree perhaps, for parts of a page. An advertisement which would normally occupy an eighth of a page, as in illustration *A* of Figure 56, might be located in the center of a quarter-page, as in illustration *B*. Now, taking the page as a whole, the attention value of that one advertisement would be increased by virtue of the fact that one competitor has been eliminated from the immediate neighborhood. One-half of the space, or one-eighth of a page, is now blank and forms a white border around the original eighth-page. But another possibility must not be overlooked—namely, that the whole quarter-page might be occupied by a reconstructed advertisement, or the original eighth-page might be enlarged 100% to occupy the quarter-page. The question arises, in considering illustrations *B* and *C*, as to which would be the more effective method of using the quarter-page space. Both keep away one competitor for attention. But in illustration *B* something else has happened—the advertisement looks different—its white border makes it stand out quite plainly from its neighbors. It has acquired one of the primary requisites for attracting the attention. Figure 57 shows an actual case from a newspaper page in which about two-thirds of the total space was unfilled (total area 50 square inches, area used 17.3 square inches). This advertisement occupied the upper right-hand corner of a right-hand page of the newspaper. Figure 58 shows a somewhat different use of white space, where the advertisement occupied the lower middle portion of the page. The white space is here not so obviously unused, although about two-thirds of the total space is blank. Figure 59 illustrates an extreme use of white space. The advertisement occupied the outside portion of a left-hand page, and about two-thirds of it is blank. The white space, however, is so distributed as not to give isolation but to attract attention by its unusual layout.

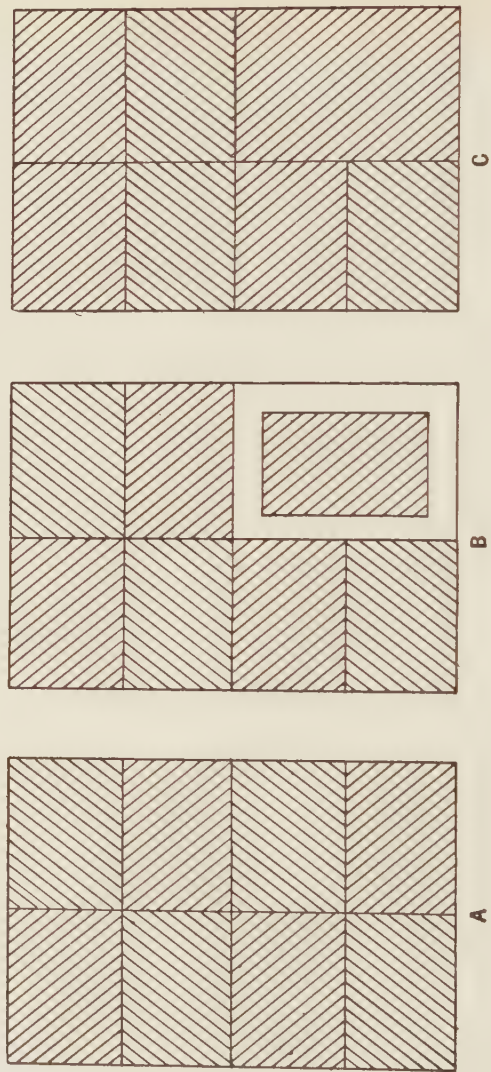


Figure 56: Two ways of using a quarter-page, with and without the effect of isolation (See page 223)

RE TO AID ITS FIGHT

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ORNIA LAWS

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by Women
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for the Woman's
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ved until a few
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I last month from
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in behalf of wo-
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the vote in coun-
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desire for women
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rnia. We are very
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d with the
with the husband
provides that no
to any person for
rk of qualification
fully. The women
West are making
so certain am I
to make good that

WE HAVE NEVER BEEN PROUDER!

*We are now displaying a group
of what we know to be, beyond
question, the smartest, most exqui-
sately styled shoes to be had at
moderate prices.*

*A bold statement, seemingly!
But the prestige of our 64 years
is behind it. Every woman should
see these new Cammeyer shoes, the
climax of shoe beauty in 1924.*

ALL EXCLUSIVE CAMMEYER MODELS

CAMMEYER

47 WEST 34TH STREET NEAR SIXTH AVENUE

**DON'T LET STOREKEEPER FOOL YOU
WHY BUY IMITATIONS MADE OF
COTTON AND CHEAP WOOL
INSIST ON GETTING
TIM'S CAP**

**Madame
Georgette**

35 West 57th Street
Between 5th and 6th Avenues

Announces

**The Latest Creations
Artistically French**

Figure 57: A newspaper advertisement that uses two-thirds of its space for border effect (See page 223)

hospital. Tren-
e day before.
in by an au-
The driver of
red yesterday
jockey got out
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Safayette and
Brooklyn.
victims were
d Mrs. Nellie
nd Street and
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ol of his car
th a motor

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oklyn. Mrs.
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being driven
lake Avenue,
04-51 Lefferts
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surer and son
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e Brownsville
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BBER.

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I HELD.

Orleans Will
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nt. He said
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at additional
llow as a re-
by William
ature of 2
s. And he
Street, who
in connection
on worth of
in the lobby

Leonia restaurant proprietor's icebox.
was fined \$100 here today by Police
Recorder Sydney Spohn.
Secretary Walter Ely of the Bergen
County branch of the Society for the
Prevention of Cruelty to Animals and a
number of witnesses testified against
the officer. He never admitted killing the
cat.

than of the flames were drenched with
water to save them.
The Great Northern Paper Company is
lessee of one of the burned warehouses,
but there was no paper in the building
at the time. The pier was developed by
the Bangor & Aroostook Railroad about
ten years ago in connection with a water
route for freight to and from Northern
Maine.



DE PINNA

5th Avenue at 50th Street

Importers and Outfitters

Girls'

VELVETEEN

DRESSES

Exceedingly smart and original creations, prettily embellished with appropriate trimmings, these dresses in brown, black and green were specially designed for informal wear at birthday parties and the like. They are made for girls from six to fourteen years.

Figure 58: Although about two-thirds of the space in this advertisement is blank, the effect is quite different from that in Figure 57.

THE FACTORS INVOLVED IN ISOLATION

This problem of white space, so called, may therefore be analyzed into the following factors:

1. The increase in chances of being seen by the use of additional space;
2. The increase in chances of being seen because of uniqueness;
3. The increase in the duration of attention because of isolation with the consequent relative remoteness of distracting forces.

On the other hand, there is the question of the greater probable effectiveness of layout, typography, illustration, and so forth, when larger space is available for it, as when the total space paid for is used, as in illustration *C* of Figure 56. The practical question involved is whether it pays to use a given amount of space in the manner shown in illustration *B* or in illustration *C* of Figure 56.

THE ATTENTION VALUE OF ISOLATION

Only one experiment is known to the writer in which the question of the value of white space was investigated. In this study by Strong¹ the advantages that might come from a reconstruction of the advertisement to suit the space exactly were eliminated, since he used the same copy, whether it appeared with or without white space. Twenty advertising pages, containing two half-page advertisements, were prepared, 10 of them with vertical division, and 10 with horizontal division as shown in Figure 60. These 20 pages were shown one at a time to men and women who were later tested by the recognition method. Each advertisement received an attention-value score in terms of the number of persons who recognized having seen it before.

The same 40 advertisements were then arranged each

¹Strong, E. K., *Research Bulletin Number 1*, Association of National Advertisers.

HOUBIGANT

PARIS

the leading French perfumer

for
130
Years



Non Bonhair, \$6.00

Subtilité, \$6.50

Zucques Fleurs, \$7.50

Exquisite perfumes from this famous French house: Non Bonhair, for sophisticated tastes; the new Subtilité, for the woman who wants an individual fragrance; and Zucques Fleurs, the favorite of connoisseurs throughout the world.

HOUBIGANT INC. 16 West 49 Street, New York. 46, St. Alexandre St. Montreal

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Katie
likene
voating
had bee
differen
more to
to occu
ment, a
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that he
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than o
linen at
Mrs. C
Then
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Figure 59: An extreme use of white space for the effect of novelty rather than isolation (See page 223)

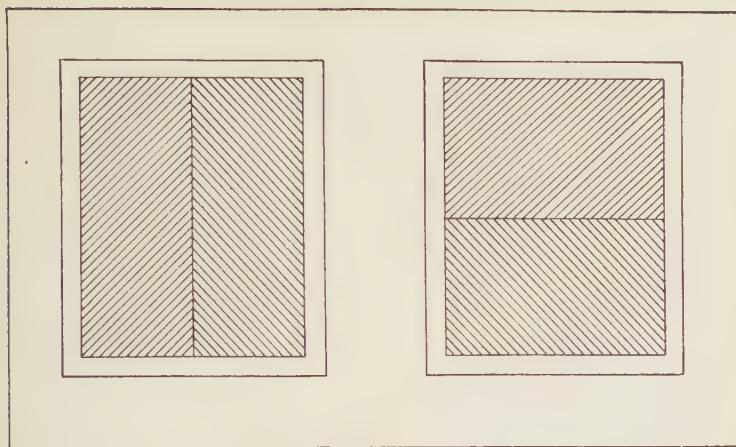


Figure 60: Showing the arrangement of half-page advertisements for an experiment on isolation (*See page 227*)

on a separate page of the same size in the manner shown in Figure 61. They were shown (to a different group of people) one at a time as before, and the attention value measured in terms of recognition score. If the attention

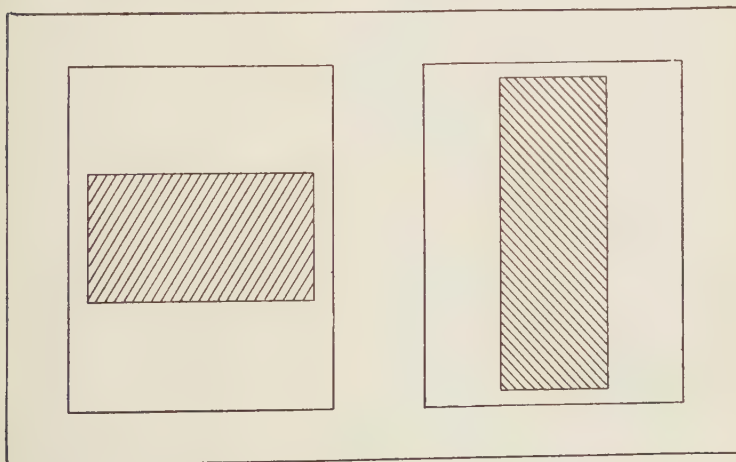


Figure 61: The advertisements of Figure 60 were rearranged as indicated in this figure.

value of each advertisement when in one setting is checked against its value when in the other setting, the difference may be attributed to the changed setting. These attention values are given in Table 35. The first four columns give the results for the vertical division of the page, and the second four columns give the same for the horizontal division. In each set of four columns the first gives the serial number of the advertisement; the second, marked I, gives the attention-value score when two advertisements appear on a page (Figure 60); the third, marked II, gives the attention-value score when each appears alone on the page (Figure 61). The fourth column in each set gives the ratio of the second divided by the first, or the change due to change in arrangement.

TABLE 35
ATTENTION VALUE OF WHITE SPACE*

VERTICAL ARRANGEMENT				HORIZONTAL ARRANGEMENT			
Advertisement Number	I	II	Ratio	Advertisement Number	I	II	Ratio
1	22	56	2.55	21	20	43	2.15
2	51	76	1.49	22	18	34	1.90
3	43	58	1.35	23	29	49	1.69
4	40	81	2.00	24	47	63	1.34
5	25	17	.68	25	43	44	1.04
6	54	67	1.24	26	35	65	1.86
7	36	39	1.08	27	36	53	1.47
8	51	58	1.14	28	28	62	2.22
9	25	45	1.80	29	28	60	2.14
10	39	74	1.90	30	17	64	3.76
11	22	65	2.96	31	33	65	1.97
12	57	68	1.19	32	15	35	2.33
13	47	84	1.79	33	21	41	1.95
14	17	56	3.30	34	33	56	1.70
15	30	61	2.00	35	43	47	1.09
16	27	70	2.59	36	28	54	1.93
17	45	65	1.45	37	20	33	1.65
18	25	34	1.36	38	14	34	2.43
19	31	46	1.48	39	18	33	1.83
20	24	45	1.88	40	27	40	1.48
Average	.....	.....	1.76	Average	.....	.....	1.90

*Strong.

ISOLATION IMPROVES A POOR ADVERTISEMENT

The average ratio of change is, for the vertical arrangement, 1.76, and for the horizontal arrangement, 1.90. That is, the attention value is increased by isolation 76% in the case of vertically arranged advertisements and 90% in the case of horizontally arranged advertisements. As one might expect, those originally occupying the lower half of the page horizontally divided (even numbers from 21 to 40) receive the greatest benefit by the change. Their average value is slightly more than doubled. Any advertisement which, on account of its position, has suffered loss of attention, can be increased in value by the use of white space. In the whole series of 40 advertisements, only one, number 5, had its value reduced by isolation. It is quite possible that this is due to the fact that the copy was very poorly adapted to its new position. If one selects the 10 advertisements having the lowest attention value and calculates the average improvement from isolation, one will find it to be 2.39; while if one makes the same calculation for the 10 having the highest attention value, one will find it to be 1.31.

TABLE 36

IMPROVEMENT OF BEST AND POOREST 10 ADVERTISEMENTS
THROUGH ISOLATION

POOREST 10		BEST 10	
Advertisement Number	Ratio	Advertisement Number	Ratio
38	2.43	57	1.19
32	2.33	6	1.24
14	3.30	2	1.49
30	3.76	8	1.14
22	1.90	13	1.79
39	1.83	24	1.34
37	1.65	17	1.45
21	2.15	3	1.35
33	1.95	25	1.04
1	2.55	35	1.09
Average	2.39	Average	1.31

The ratios for the lowest and the highest 10 are presented in Table 36.

If one wants to determine the value of white space used in this fashion as compared with the use of the entire space for the copy, one must take into account the conclusions of the preceding chapter, that doubling the space does not double the attention value. Table 37 presents the data necessary for making such a comparison.

TABLE 37
VALUE OF ISOLATION

Space	Area	Attention Value	Isolation Value
Half-page	1.00	1.00	1.00
Full-page	2.00	1.41	1.83

The first column simply gives the area of the full-page when the half-page is taken as 1.00. The second column gives the attention value of a full-page when a half-page is taken as 1.00. And the third column gives the attention value of a half-page advertisement occupying a full-page when a half-page, as ordinarily used, is taken as 1.00. We may conclude that the attention value to be gained from isolation does not increase quite as rapidly as the space increases; and second, that one gets more nearly the full value of the additional space by using part of it as white space. The present case is rather an extreme case, too, since one-half of the total area is left blank. And furthermore, the copy must have been in most cases rather poorly adapted, especially in shape, to meet the changed position.

POSITION ON THE PAGE

The experiment just described on the effect of isolation raises another interesting question concerning attention. It was found that an advertisement occupying the lower half of the page was, on the whole, improved more by giving it full-page space than a like change in one occupying the upper half of the page. This would seem to suggest that

the location of the advertisement on the page might have had an effect upon its attention value, and that somehow the lower half of the page suffered a disadvantage compared with the upper half. It is rather commonly believed that on any page there are certain favored positions; for example, as to the right- or left-hand side, the upper or the lower half, the upper right-hand corner or the upper left-hand corner, top center and bottom center, and so forth.

RANGE OF VISION AND ATTENTION COMPARED

What basis, in the characteristics of attention, can be found for such views? After examining into this question, we will survey the results of experiments that bear upon it. Obviously, in order that a situation may attract attention, whether it be an advertisement, or noise, or any other kind of stimulus, it must come within the range of the sensory mechanism concerned. An advertisement, to be attended to, must first make an impression upon the organ of vision; it must, in other words, fall within the visual field. In a great many circumstances in which advertising is presented, the question is not simply whether or not the position will guarantee that it will be seen, that is to say, come within the visual field, but rather, *what are the chances that it will be seen, on the basis of mere position?* Now the size of the visual field, with the eyes in any one fixed position, is so great that in any medium in which advertisements appear, every part of the page is within the range of vision—stimulates some part of the visual mechanism—so that, one may say that every advertisement, no matter where on the page it is placed, will satisfy this very important condition of attention.

A second fact to be remembered, however, is that attention is selective and that some one object is at any moment picked out for attention, and that the range of this attention is quite limited.

Still a third fact is that attention normally fluctuates or

flits about unless arrested by something in the nature or composition of the stimulus. Coupled with this fact of fluctuation, there is the curious characteristic of vision, mentioned in Chapter VII, that the eye sees nothing while in motion with relation to the objects in the field of vision. Only when the eyes are stationary is effective vision possible. This adds greater importance to the selection and fluctuation of attention than they would otherwise have. We must inquire, therefore, whether there is anything in the mere fact of location, entirely aside from the composition of an advertisement, which will determine the direction of attention.

INFLUENCE OF HABIT ON THE COURSE OF ATTENTION

As far as our knowledge of human nature goes there is nothing in the original constitution of the individual that would make position—up or down—right or left—a potent factor. But one's *habits* of looking at things, acquired and firmly established in the course of many years, might determine the sequence of the movements of attention over a page and thus give an advantage to that portion of the page first attended to. There are two such sets of habits which we may safely assume are well established in all persons capable of reacting to advertising—namely, the reading habit, and the habit of looking at pictures. For persons using the English language, reading habits would tend to make the attention fall first upon the upper left-hand corner of the page and travel across from left to right along successive lines until the lower right-hand corner of the page is reached. Thus the upper half of the page would have an advantage and the upper left quarter would have an advantage if one's reading habits were the determining factor. A person trained in the reading of Hebrew or Chinese would, of course, have built up quite different attention habits. The habit of looking at pictures would seem to predetermine a different course for the movement

of attention. Here it is generally supposed that, aside from any influence exerted by the composition of a particular picture, the attention will first fall slightly above the middle of the page. This is known as the optical center. When actual photographs are taken of eye movements, which register objectively the movements of attention, by means of a beam of light reflected from the cornea of the eye, or some mechanical device attached to the eye, results somewhat like Figures 62 and 63 are obtained. Figure 62¹ shows the movements made by the eye in reading six lines of print. The blurred spots indicate points of attention, that is, where the eye stopped moving, and the smooth thin lines joining these indicate the path the eye traveled between stops. The small dots mark off time intervals of about .007 second. The eye is first directed to the upper left-hand corner and from there moves with about three stops across the page. The reading movements begin with the fifth line in the figure, the first four lines being simply sweeping movements back and forth across the page.

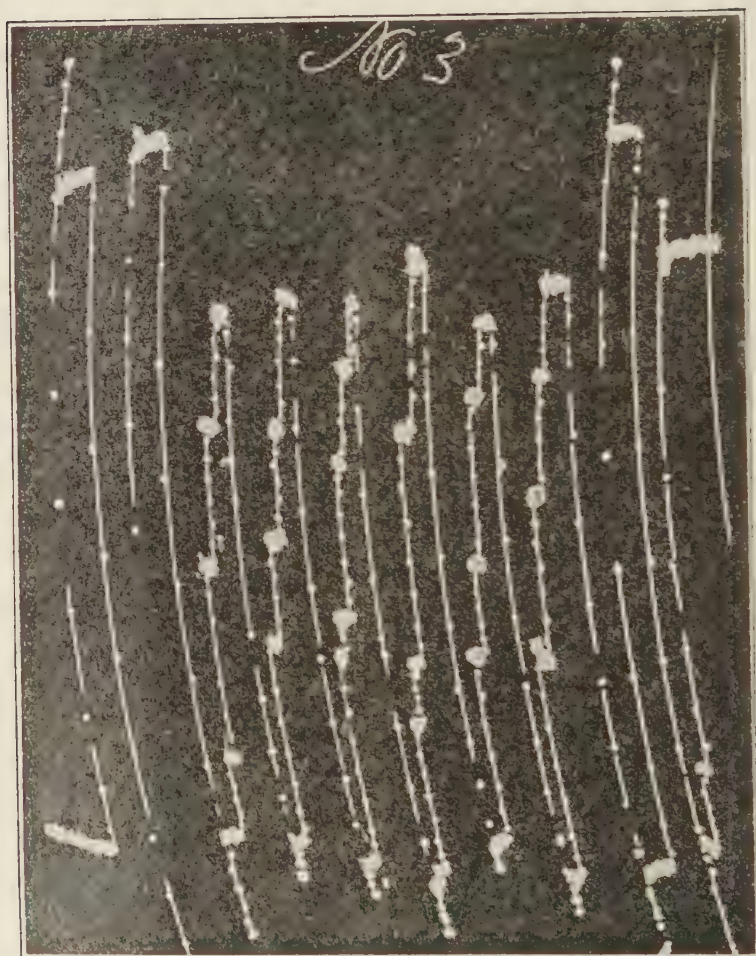
Figure 63² shows the course that the eye takes in looking at a circle. The arrow at the top shows the starting point and the direction of the eye movement. The eye did not begin at the upper left-hand portion of the object, but instead began in the upper center and moved downward in a clockwise fashion but over a very irregular course.

ANTAGONISM BETWEEN TWO SETS OF HABITS

Here are two sets of habits which are very likely to be firmly established in every adult, and they are antagonistic. Like all sets of habits of this sort one or the other set may be shunted into service according to the attitude of the person at the time. If he is in the reading attitude, as he meets an advertising page his attention habits built up in reading will function; if he is in the picture-seeing

¹Huey, E. B., "The Psychology and Physiology of Reading," *American Journal of Psychology*, 1900, p. 290.

²Ladd and Woodworth, *Physiological Psychology*, 1911 p. 461.



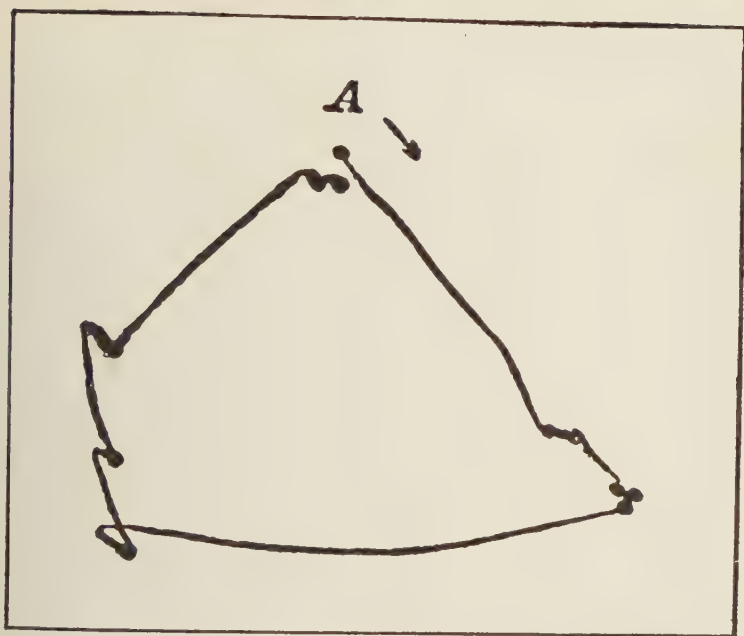


Figure 63: A photograph of the eye movements made in looking at a circle
(See page 235)

attitude the other set of habits may be expected to function. In approaching the problem, then, of the value of mere position, we must keep its complexity clearly in mind. What is the attitude of the person who sees advertising today? Is it the picture attitude or the reading attitude? And has a change taken place during the last 10 years in the position value of advertising space along with the great increase in the use of effective illustrations? The problem of attention control in relation to position may be even much more complex than we have described it. Its complexity and the variety of influences at work in any concrete case will prepare us for some of the conflicting results which have been obtained from experimental work and from opinions of advertising experts. In the absence of facts, current beliefs concerning position probably rest upon tradition.

ATTENTION VALUE OF DIFFERENT SECTIONS OF A PAGE

The earliest experimental examination of the attention value of mere position on a page was made by Gale¹. He exposed to his subjects, for a fraction of a second, sheets of cardboard the size of an advertising page and containing words occupying various positions. After each exposure of the card, the subjects were instructed to report what they had seen. In terms of the number of items seen, the various sections of a page were given the following order for attention value:

In vertical division of the page, the left half exceeded the right half; in horizontal division into quarters, the order was second, third, first, fourth. As the subjects knew that they must see all that was possible in the very brief time allowed, they were no doubt keyed up to the task, and fixed their attention upon what they thought would be the middle of the page. Gale explained the superiority of the left vertical half over the right as the result of the reading habit of looking toward the upper left corner first.

Adams² attempted to make experimental conditions more nearly like those met in attending to pages of advertising, and at the same time avoid the complications that would be introduced by the use of the actual advertisements with their varying make-up. He prepared a set of 92 cards of the size of an advertising page, dividing some into 15 parts, some into 8, some into 4, and some into 2 parts. In the center of each division he placed a small capital letter, (certain exceptions will be noted) distributing his letters in such a fashion that no division of the page would gain more attention merely because of the particular letter that it contained. The various divisions are indicated in Figure 64, where the position of the letter is indicated by a small *x*. The numbers in the various sections will be explained later. These cards were turned like the pages of a magazine and

¹Gale, H., *Psychological Studies from the University of Minnesota*, 1900, pp. 51 ff.

²Adams, H. F., *Advertising and Its Mental Laws*, 1920, pp. 89 ff.

each was exposed to view for one-half second. Immediately after seeing each card, the subjects, numbering 147, reported what letters they saw and the order in which they saw them. Thus one can find the relative power of each section of the page *to attract the attention* when all sections are competing for attention, by using the number of times each section was seen first.

Figure 64 gives these values in terms of the percentage of times each of the sections of the page was seen first out of the total number of times it might have been seen first, when the pages were divided as indicated. The numbers show very clearly that under the conditions of this experiment the reading attitude was dominant and the habits of fixation were effective, tending to turn the attention first to the upper left corner of the page. This holds, regardless of the number of sections on the page. It is interesting to see that when the letter was placed in the upper right corner of the left vertical half, the attention value was 24% less than when it was in the upper left corner. It may be inferred that the attention fell first upon the upper left corner of the page, and when no letter appeared there, the half second exposure still allowed time for finding it; but after this first fixation the two halves of the page had a more nearly equal chance to attract the attention.

If, instead of first fixation of attention, the total number of letters reported for each section be calculated, regardless of the order in which they were perceived, the values in Table 38 are obtained for the full-page divided into 15 sections. These numbers read across the page in order of size for the first two rows and suggest that reading habits are potent to that extent. Then, as the middle of the page is reached, the central sections in the third and fourth rows have slightly higher values, 5.1 and 3.1. They are only very slightly so and offer very little, if any, support to the idea that the center of the page has especially high attention value. Because of the exceedingly high value of the upper left section of the page in this experiment, the *upper*

×	×	×
68.6	1.5	2.3
×	×	×
4.4	3.4	0.3
×	×	×
6.4	4.1	0.1
×	×	×
3.5	2.2	0.0
×	×	×
2.9	0.1	0.3

81.1	3.9
12.9	1.9

×	×
85.5	6.5
×	×
4.1	1.5
×	×
0.9	0.3
×	×
1.2	0.0

×
85.5
×
14.5

×	
94.0	6.0
	×

×	
70.0	30.0
	×

Figure 64: The attention value of various subdivisions of a page (See page 239)

TABLE 38
ATTENTION VALUE OF SECTIONS OF A PAGE*

Row	Left	Middle	Right
1	21.6	19.1	15.6
2	6.8	5.8	4.7
3	4.3	5.1	3.9
4	2.4	3.1	2.7
5	1.9	1.2	2.1

*Adams.

half of the page and the *left* half of the page have the higher attention value. Omitting the top row so as to exclude the extremely large percentage in the upper left corner, there is very little difference between left and right half of the page. There seems no doubt, however, that for this experiment, at least, the upper half has very much more attention value than the lower half.

Starch¹ conducted a somewhat similar experiment on the value of the position on the page, using non-sense syllables instead of letters. The pages were arranged in the form of a booklet and each page was divided into two or four sections with a non-sense syllable in the corner of each section. The subjects, after reading through the booklet, reported all the non-sense syllables they could recall. The values for the upper and lower half of the page and each quarter-page are given below in terms of percentage of a perfect score for each position:

Upper half	54%	Upper left quarter	28%
Lower half	46%	Lower left quarter	16%
		Upper right quarter	33%
		Lower right quarter	23%

Here again the upper half is better than the lower half, but the right half is better than the left. Starch explains the former largely on the basis of reading habits, but says nothing about the superiority of the right over the left half. We are dealing here with something more than

¹Starch, D., *Principles of Advertising*, 1923, p. 792.

attraction of the attention. The subjects presumably knew they were to be tested, hence read every syllable—for there was no time limit set, and attending to one syllable did not preclude attention to others later. The factors that one would expect to be important in such circumstances as these are primacy and recency. As there were only 12 syllables, recency might give a very slight advantage to the right side of the last page.

ATTENTION VALUE OF RIGHT HALF AND LEFT HALF
OF A PAGE

Experiments have been performed with actual advertising material under conditions which very closely approximate the natural ones, and some of the results have a bearing upon the matter of position. For example, Starch¹ had people look through the advertising section of a certain magazine which contained 19 upper half-page and 13 lower half-page advertisements. Immediately afterward they were asked to report what they had seen. The upper halves were remembered on the average 12.6 times and the lower halves were remembered on the average 11.4 times. Now, this difference of 1.2 times remembered looks large when expressed as 10% of the value for the upper halves, but it must be remembered that both averages, being made up of varying individual scores, have certain variabilities which are not reported, so that the reliability of this small difference is very questionable indeed. Similarly, Strong in his experiment with readers of the *Saturday Evening Post*, reported in Chapter VIII, found certain differences between outside and inside columns—inside always meaning next to the binding. His results are given in Table 39. These numbers are in terms of percentage of readers who recognized the advertisements; and the difference between percentages recognized for outside and inside advertisements is only about 1.1. Considering that each of the averages

¹Starch, D., *Principles of Advertising*, 1923, p. 793.

TABLE 39
ATTENTION VALUE OF POSITION ON PAGE*

Size	Outside	Inside	Difference
2 columns x 6 inches	13.6	11.6	2.0
1 column x 6 inches	7.6	6.9	0.7
1 column x 3 inches	5.9	5.2	0.7

*Strong.

from which these differences are derived is itself a variable quantity (measures of variability are not given) this final difference loses its significance, even though it appears to be 12% when expressed as a percentage of the values for outside advertisements.

ATTENTION VALUE OF RIGHT- AND LEFT-HAND PAGES

Very closely related to this question of the attention value of position on the page is that of the relative value of right- and left-hand pages in a flat magazine such as the *Saturday Evening Post*. Strong, in his study of that medium, found the average attention value for right-hand pages to be 11.7% and for left-hand pages 11.6%, and concluded that there was no difference. Hotchkiss and Franken,¹ on the other hand, in a similar study of the same medium found the following:

TABLE 40
ATTENTION VALUE OF RIGHT- AND LEFT-HAND PAGES*

Particulars	Left-Hand Pages	Right-Hand Pages
17 Colored pages	35.6	38.9
62 Black and white pages	33.9	35.8
20 Half-pages	24.3	22.2
14 Quarter-pages	14.0	15.8

*Hotchkiss and Franken.

Concerning these figures, they conclude: "Taking into

¹Hotchkiss and Franken, *Attention Value of Advertisements*, Rep. of N. Y. University Bureau of Business Research, 1920.

account the results of other experiments together with the results here obtained, it appears safe to state that the attention value of the average right-hand page is 5% superior to that of the average left-hand page. That is to say, if we should reverse the position of all advertisements—placing all the right-hand pages on the left side of the magazine, and the left-hand pages on the right side of the magazine—the chances are that the average attention value of the present right-hand pages would decrease 5% and the average attention value of the present left-hand pages would increase 5%.”

Analyzing their largest difference—namely, 3.3—between right- and left-hand colored pages, we get the following:

Average for left-hand page, 35.6, made up of attention values ranging in size from 15 to 67; and average for right-hand page, 38.9, made up of attention values ranging in size from 26 to 56. These averages are too unreliable to serve as evidence for the superiority of one position over another. (There is only about one chance in five that further accumulation of data would show a difference as large as 3.3.)

ATTENTION TO A NEWSPAPER PAGE

One study has been reported by Franken¹ concerning the influence of position on the newspaper page. The experiment has been described in Chapter VIII. The conclusions which the author draws, though unsupported by any figures in his unpublished report, are as follows: “The right-hand pages are slightly superior to the left-hand pages. The upper half of the page is approximately 25% superior to the lower half. We find no definite conclusions as to the relative value of position by dividing the newspaper into vertical half- or quarter-pages.”

The conditions surrounding the control of attention to a newspaper page require some special consideration. Con-

¹Franken, unpublished.

sidering the reading habits of people, especially the tendency to get news from headlines, coupled with the fact that the headlines of important articles appear at the top of the page, one would expect to find the attention value of the upper half of the page greater. Other differences due to position have not been established for the newspaper page.

It appears from this theoretical and experimental survey of the question of position on the page and its influence upon attention value, that in those situations where reading habits hold, as in the experiments of Adams, the upper left corner gets the maximum attention; but in looking at actual advertising pages the reading attitude does not necessarily hold and the superiority of left over right half disappears and the superiority of upper over lower half is diminished or disappears. This ought to be true especially where one is glancing through an advertising section in which illustrations are abundant. It might not be so true where advertisements appear next to reading matter and where the reader is in the reading attitude when he comes into contact with them. Exception to this statement might also have to be made in the case of the newspaper page when the reader is presumably set for reading, but even here position must certainly be a factor relatively unimportant in comparison with the other attention devices that have been discussed and are still to be discussed in coming chapters.

POSITION IN THE MEDIUM

Does the position that an advertisement occupies in the medium have any influence upon its attention value? The problem reduces itself simply to this: What are the chances that an advertisement on a given page will be seen, that is, will fall within the range of vision? This is the primary requisite for all visual attention. Whether attention will actually be attracted depends after this upon the characteristics of the advertisement itself and its location upon the page.

It may be stated at the outset that no fundamental native trait of human nature makes one location better or worse than another. One does not, by nature, look either at the back or front of a magazine first. On the contrary, any attitudes or reactions of this nature must be looked upon as habits. As in all cases where habits are concerned, there is need to inquire as to just what the habit is and how uniformly it is present in the population. Limiting ourselves to magazines and newspapers, we may then inquire what habits are uniformly present in at least large sections of the public which would have any bearing upon the efficiency of different locations within those mediums. It is not necessarily safe to argue *a priori* that, since magazines, for instance, are bought for the stories and other reading matter that they contain, the disposition of this reading matter will determine the course of the attention to the magazine. For immediately one might inquire whether it is true that magazines are bought for the stories and reading matter or whether they are bought primarily to "pass away the time," to "afford an hour's entertainment," to "make one forget his business cares," or the like. In the latter case the modern advertising might compete on fairly equal terms with stories. The significance of attitude is indicated in the following quotation taken from an article by Münsterberg¹ in which he is arguing against the flat type of magazine arrangement:

"The wish to read a story and to enjoy its contents demands an interest setting which is entirely different from the attitude in which we follow the advertisements, whatever they may be. The one demands the attitude of sympathetic interest by which we lose ourselves in the fate of the hero and heroine; the other appeals to our personal practical needs and to our wish not to waste our money. The two ways of mental behavior are so different that the one almost excludes the other, and if we are disposed in the one way, everything which would demand the other

¹Munsterberg, H., *Printers' Ink*, October 21, 1915.

practical disposition must fail to impress us." The conclusion from such arguments as this might err if the attitude which a person brings to a magazine is assumed without investigation to be either the one or the other type exclusively.

Three courses of investigation are open: first, to make an actual objective survey of people's habits in dealing with magazines; second, to infer their reading habits from the report of their interests in mediums; or third, to make experimental studies directly of the attention and memory value of advertisements in different positions within the medium. All three of these methods have been used to a limited degree and their results will be briefly reviewed.

AN OBJECTIVE SURVEY OF READING HABITS

The method of direct observation of magazine readers has, as far as the writer knows, been used only by Scott¹. It is a laborious method but would furnish some useful data, if carried out on a sufficiently wide range of readers and under a considerable variety of circumstances. Scott made 6 visits to a public library and at each visit made a survey of 100 persons who were reading magazines. He noted simply whether the reader was attending to an advertisement or a story when first observed. That is, he made a kind of snap-shot observation of 100 men to see what they were doing at the moment. His report, therefore, holds only for the moment in the case of any single individual. But when the whole 600 individual records are combined, a kind of cross-section of a sample of the reading public is obtained. His results in terms of percentage of readers looking at advertising on each of the 6 occasions are given in Table 41.

A more valuable, though more difficult study, would be the observation of a group of persons during the whole period they were looking at the magazine in order to note

¹Scott, W. D., *The Psychology of Advertising*, pp. 222 ff.

TABLE 41

DISTRIBUTION OF ATTENTION IN MAGAZINE READERS*

First 100 .....12%	Fifth 100 5%
Second 100 6	Sixth 100 .....11
Third 100 .....15	Average .....10.5
Fourth 100 .....16	

*Scott.

the course of the attention. For example, were stories read first, and then the advertising, or was the opposite the case? Was the magazine systematically examined or only casually glanced through? Did any positions in the advertising sections seem to have an advantage over others in terms of order of attention, duration of attention, or the like?

The point about this particular survey that interests us is that there were at least 10% of the people observed whose attitude was such that they attended to advertisements. Upon approaching a magazine, they were not so intent upon reading a story or informative article, that advertising could get no attention. To be sure, as Scott suggests, this library group may represent the casual reader, one who wants to "pass the time," while the regular magazine subscriber might take a different attitude. But in most people who read current magazines the entertainment element is strong and if the advertising section offers entertainment equal to reading matter it will get attention.

INFERRING READING HABITS FROM INTERESTS

The second method of getting information—namely, to infer reading habits from introspective reports of interests—has been used primarily in connection with newspapers. Errors must be guarded against in the interpretation of such introspective reports. For example, one may not be clearly aware of his interests and their relative strength in reading any medium. Further, he may be inclined to report what should interest him most rather than what does actually

TABLE 42
RELATIVE VALUES OF NEWSPAPER FEATURES*

Feature	Percentage	Feature	Percentage
Local news	17.8	Music	1.88
Political news	15.8	Book reviews	1.84
Financial news	11.3	Arrangement	1.4
Foreign news	9.5	Society notes	1.4
Editorials	9.0	Drama	1.1
General news	7.2	Art	0.9
Ethical tone	6.7	Advertisements	0.44
Sporting news	5.8	Storiettes	0.13
Cartoons	4.3	Weather	0.10
Special articles	4.3	Humor	0.05

*Scott.

interest him most. Many a reader of an evening newspaper who buys his paper primarily for the "news" will look first and most eagerly at the comic section. Scott reports the following incident: "One lady told me that she was sure she never paid any attention to advertisements, and yet within an hour after making such a statement, she was engaged in a conversation about articles which she knew only from statements appearing in the advertising columns of her periodicals. I observed her reading magazines and found that she seldom slighted the advertisements. Thousands of magazine readers read advertisements more than they are aware."

Two studies are available concerning the newspaper features in which readers are most interested. The information was obtained by the use of questionnaires in which the various aspects of a paper were to be arranged in the order of their importance for the individual, in answer to a problem such as the following: "State in order the five features of your paper which interest you most."

The data of Scott¹ refer to the interests of 2,000 prominent business men and are presented in Table 42, where all the figures are in terms of percentage of maximum interest possible. These percentage values were derived from the order of interest as follows:

¹Scott, Walter Dill, *Psychology of Advertising*, pp. 383 ff.

A feature that was mentioned as first choice was credited with five points; one mentioned as second choice, with four points; one mentioned as third choice, three points; one mentioned as fourth choice, two points; one mentioned as fifth choice, one point. The sum of all these points was arbitrarily assumed to represent the sum-total of interest. It was then found what percentage of this total interest had been credited to politics, editorials, and all other features mentioned by any of the respondents.

Hotchkiss and Franken¹ made a similar study of 410 business men, 136 professional men, and 1,361 students. Their data are reproduced in Table 43, where all the figures are in terms of percentage of maximum interest.

TABLE 43
RELATIVE VALUES OF NEWSPAPER FEATURES*

Feature	Business Men	Professional Men	Students
General news	18.32 %	22.23 %	19.80 %
Finance	19.92	7.45	8.26
Editorials	10.50	14.62	14.82
Politics	10.56	12.94	11.73
Foreign news	10.56	8.36	6.30
Sports	7.90	6.68	7.42
Local news	3.36	6.87	3.54
Business page	3.72	1.42	2.78
Special articles	2.59	3.03	4.71
Cartoons	2.40	2.38	2.50
Accuracy	1.87	3.29	2.03
Book reviews	1.15	2.85	2.20
Advertisements	1.66	0.36	3.64
Moral tone	1.14	1.45	1.33
Brevity	0.94	1.79	0.81
Theatrical	0.94	0.83	3.98
Music	0.36	1.16	1.40
Society	0.25	0.57	1.24
Art			
Stories			
Completeness			
Death notices			
Headlines	1.86	1.72	1.51
Army and Navy			
Display			
Real estate			

*Hotchkiss and Franken.

¹Hotchkiss, G. B. and Franken, R. B., *Bulletin of Bureau of Business Research*, New York University.

Considering as news what is indicated in the tables as General, Local, Foreign, and Political news we have the news interest in the three groups as compared with interest in advertising as follows:

TABLE 44
NEWS INTEREST COMPARED WITH ADVERTISING INTEREST

Group	News Interest	Advertising Interest
Business Men		
Scott	50.30%	0.44%
Hotchkiss and Franken	42.80	1.66
Professional	50.40	0.36
Students	41.37	3.64

If these figures can be taken at their face value, we have an exceedingly slight immediate interest in advertising on the part of newspaper readers. Nevertheless the data taken as a whole tell something about the mere chance an advertisement will have of being seen when variously located in the newspaper. For we are concerned with the influence of location in determining the likelihood of an advertisement coming within the range of attention. Obviously an advertisement located in the vicinity of real news will have a much greater chance of being seen than if located in the midst of the book reviews, on the basis of these interest figures.

GROUP DIFFERENCES IN INTEREST

Two other points of significance may be noted in these figures. First, that the groups of individuals differ somewhat in the distribution of their interests. This would be still more marked if more varied groups had been included in the investigations such as the laboring group, the farming group, and so forth. The bearing of these facts upon attention value of location for different groups is evident.

The second and the more important fact is that the character of one's interest leading him to read a given

section of a newspaper may make him especially open to influence from advertisements within that general field. If one is interested in the financial page, he will be sensitive to financial advertising appearing there; if one is interested in the page of radio news, it may be expected that he will be susceptible to radio advertising, in a way that he would not be while reading local news. The potency of this continuity of interest as a factor in attention has been recognized to a certain extent in the distribution of newspaper advertising. The same may be done in certain of the magazines, such as *Good Housekeeping*, with their well-defined departments. That the next generation will see this device carried to the extreme is predicted in the following humorous quotation taken from the *Atlantic Monthly*:

If, for example, a story of an elopement is to be told, the hero glancing at his watch (opposite the Elgin Watch advertisement) will say that it is time to start. "But am I not to take my trunk?" (opposite the Indestructo Trunk Advertisement) cries Betty. "No," says Jack, "we can buy what we need in New York!" (Biltmore Hotel); "all we need is money" (American Express Cheques), "and a few necessities" (Williams Shaving Stick, Pepsodent, and the rest). He glances at his automobile (Mercer), sees that the tires (United States) are in condition for a fast run, and, helping Betty in, lights a cigarette (Camels) and in another moment the car has passed out of sight (for fine roads use Tarvia).

It appears, therefore, that although one may approach his newspaper or magazine with a definite reading attitude, he will still be susceptible to advertising that is in conformity with his interests. Furthermore, it is possible to determine these interests in social and occupational groups by the questionnaire and other simple methods of investigation.

EXPERIMENTAL EVIDENCE OF THE INFLUENCE OF POSITION

The experimental evidence of the attention value of position in the medium concerns especially magazines of

TABLE 45
INFLUENCES OF QUANTITY OF MATERIAL*

Number of Pages	Recognition Immediate	Recognition After One Week
5	83.1%	14.4%
10	81.4%	14.1%
25	72.6%	12.8%
50	57.2%	10.7%
100	50.4%	8.2%
150	35.1%	6.6%

*Strong.

the standard type and the flat type. Two very concrete questions may be asked, namely, "What is the influence of the size of the advertising section of a standard magazine upon the chances of any one particular advertisement being seen, or of its getting attended to?" Or we might inquire, assuming that all of the advertisements will at least be seen, "What are the chances that a given one will be remembered when the total number is 10 or when it is 100?" Answers to both these questions may be obtained from experiments. We will consider the second question first.

Strong¹ tested the memory value for groups of advertisements ranging in number from 5 to 150. He determined what proportion of each group of advertisements could be recognized as having been seen when the subjects were tested immediately after, and one week after, the material was exposed. The conditions of his experiment were such that *every person saw every advertisement*, that is, attention was predetermined by the nature of the instructions. Hence the number of advertisements in a group had no influence upon the *attraction of the attention*, but only upon the permanence of the effect. The results of this test are given in Table 45, where the numbers are in terms of average percentage of recognition per advertisement. In the figures given in the table the percentage recognized is de-

¹Strong, E. K., *Bulletin of the Association of National Advertisers*, Number 2.

creased by more than half when the number of advertisements is increased 30 times. This decrease in value is relatively slight. When ability to *recall* what has been seen, in distinction from the mere *recognition* of it, is measured, the increase in quantity of material seen has a surprisingly great influence upon what is recalled. For instance, in terms of the number of readings required to learn lists of non-sense syllables of different lengths, we have the results given in Table 46.

TABLE 46
RELATION BETWEEN EASE OF LEARNING AND NUMBER
OF ITEMS TO BE LEARNED

Number of Items	Number of Readings	Time per Syllable
7	1	.4 seconds
10	13	5.2 seconds
12	17	6.8 seconds
16	30	12.0 seconds
24	44	17.6 seconds
36	55	22.0 seconds

The last column in the table shows the amount of time required to learn *one* syllable when that syllable is one among few, or many. From such figures as these we may argue that when all the advertisements in a group are seen and are equal in attention value, the mere matter of the number in the group affects the chances that any one advertisement will be remembered.

INFLUENCE OF POSITION IN A GROUP OF ADVERTISEMENTS

More closely related to the advertising problem under consideration is the laboratory study of the recall value of different quantities of material when seen but once. Four series of unrelated words 12, 16, 20, and 24 in number were presented, one list at a time, to a group of subjects. Immediately after seeing them, they were asked to recall as many words as possible. The results of two experiments

TABLE 47
INFLUENCE OF QUANTITY OF MATERIAL UPON RECALL

Number of Words	AVERAGE NUMBER OF WORDS RECALLED	
	First Experiment	Second Experiment
12	9.13	9.80
16	12.40	11.86
20	15.33	12.33
24	15.73	14.26

of this nature are given in Table 47, where the figures are in terms of the average number of words recalled.

It may be readily seen from these figures that under these experimental conditions the amount recalled does not keep pace with the increase in the amount of material presented. This means that the larger the amount of material presented at one time, the smaller is the chance that any one unit of the material will be recalled. From these laboratory studies, therefore, we find that the effect of a stimulus, measured in terms of memory, depends on the size of the group in which it is located and the position it occupies in the group.

If we now examine the individual syllables in a list of a given size we find that the chances of being remembered after being seen depend upon where in the list the syllable happens to be located. Thus in Table 48 we find the number of repetitions needed to learn each syllable in a list of 10.

TABLE 48
RELATION BETWEEN EASE OF LEARNING AND POSITION
IN THE GROUP

Position	1	2	3	4	5	6	7	8	9	10
Repetition	0	3	6	9	23	24	32	25	23	6

The first syllable is learned at once, the last one requires 6 repetitions; while one in the middle of the group requires 23 repetitions.

A study comparable with these has been made with

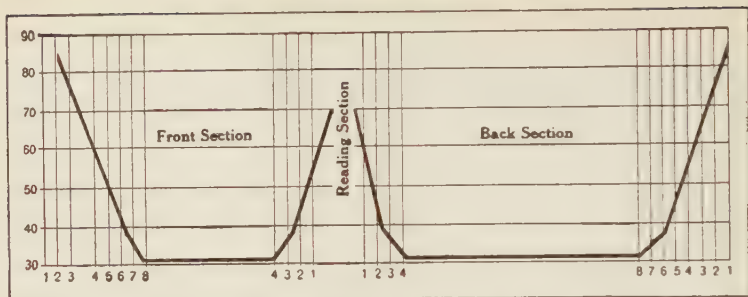


Figure 65: Attention value of various positions in a standard magazine
(From Starch)

advertising material by Starch.¹ His subjects were given 15 minutes to *turn every* page in the advertising section and were told to *read* what they chose and to skip what they chose. After correcting for the different degrees of familiarity with the advertisements he obtained the recall values in Figure 65. The vertical scale is in terms of ratios of the value of the outside cover. Thus, page 2 of the front section has a value equal to .85 of the outside back cover. *Since every page was turned* and since correction was made for differences in familiarity with the advertisements, the main factor at work in determining the values is probably the influence of position in the magazine. The mere chance of being seen when in various locations should play no part in determining the result.

In certain of the experimental studies of Strong² there was no guaranty that every advertisement should be seen. For example, in one study of a standard magazine, students who had been required to read an article contained in it were tested for their knowledge of the advertising. There were no instructions to look at advertising and no hint that there would *be* a test for knowledge of advertising. The influence of position under these circumstances, therefore, represents the combined effect of at least two factors, namely, the mere

¹Starch, D., *Principles of Advertising*, 1923, p. 786.

²Strong, E. K., *Bulletin of the Association of National Advertisers*, Number 5.

chance of being seen, and the likelihood of being remembered, if seen at all. Figure 66 presents the results of this study in the form of a curve corresponding in general character to that of Starch. The records are in terms of recognition value (percentage of persons recognizing) which, as we have said earlier, corresponds more closely to attention value than does recall. In fact, Strong labels his scale of values "Attention Value."

The resemblance between the recall curve of Starch and the recognition curve of Strong is surprisingly close considering the fact that attention was predetermined in Starch's experiment and not in Strong's. We may conclude that the influence of *mere chance of being seen* upon the value of an advertisement is of the same order as the *influence of position* with attention guaranteed. The other possible interpretation, that chance of being seen plays no part whatever in determining the results, seems less probable.

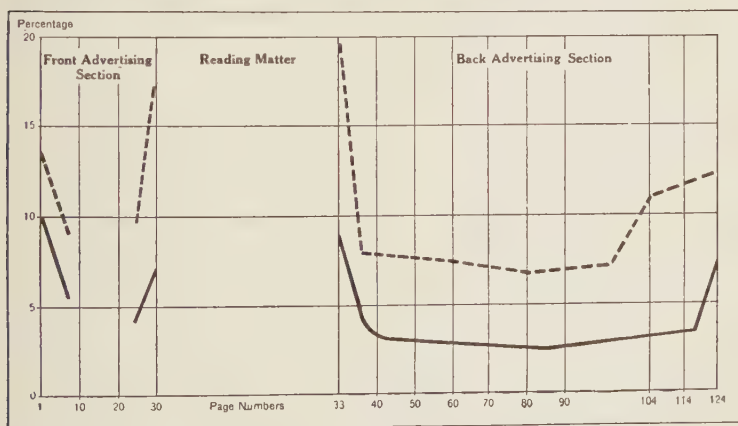


Figure 66: Attention value of various positions in a standard magazine. Dotted line represents records for men and the solid line for women. (From Strong)

In the flat type of magazine the chances of being seen, that is, the possibility of an advertisement coming within the range of attention, are much increased on account of the

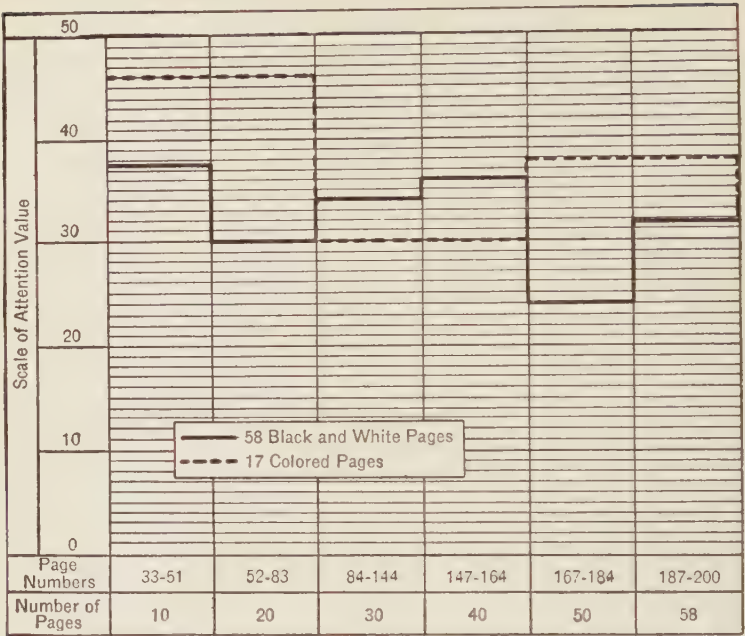


Figure 67: Attention value of various positions in a magazine with advertisements "next" to reading matter" (From Hotchkiss and Franken)

distribution of the advertisements through the body of the magazine. The other factors affecting memory value should remain the same as in the case of the standard magazine. Only two investigations will be reported. Strong,¹ and Hotchkiss and Franken² each measured the influence of position in the *Saturday Evening Post* by the recognition method, under circumstances where the persons did not know they were to be tested. Therefore, a uniform distribution of attention was not guaranteed by the conditions of the experiments, but was affected by the make-up of the magazine. Figure 67 shows graphically the value of position obtained by Hotchkiss and Franken for full-page black-

¹Strong, E. K., *Bulletin of Association of National Advertisers*, Number 7.

²Hotchkiss and Franken, "Attention Value of Advertisements," *Bulletin Graduate School of Business Administration*, New York University, 1920.

TABLE 49
INFLUENCE OF PREFERRED POSITION*

Position	Percentage of Recognition
Front Cover	57.5
Back Cover	50.5
Inside Front Cover	30.0
Inside Back Cover	34.0
Page 1	36.0
Page 2	35.0
Page 50	33.0

*Strong.

and-white advertisements. Excluding the inside and outside covers, the range of values is much less than in the case of standard magazines.

For the so-called preferred positions the results of Strong may be taken as a sample. They are given in Table 49. These records are always less well established than those for positions within the magazine because the result for a preferred position usually depends upon a single advertisement.

XI

THE ATTENTION VALUE OF COLOR AND ILLUSTRATION

Reasons for attention value of color. Influence of color upon legibility of copy. Measuring attention value of color. Attention value of colored advertisements. Attention value depends on amount of color used. Influence of the way color is used. The picture. Pictures are universally understood. Individual and group differences in the need for pictures. Data from advertising campaigns. Illustrations attract attention. Illustrations facilitate comprehension. Illustrations arouse desires. Illustrations influence feeling-tone. Facial expression in illustrations. Illustrations should be relevant. Attention value of relevant and irrelevant illustrations. Illustrations should be relevant to the *appeal*. Relevancy and memory.

IN Chapters VIII and IX we have considered those devices—commonly used in advertising—which have value in attracting the attention not so much by virtue of the sensitivity of the human mechanism to them as by virtue of their inherent intensity as stimuli. In Chapter X we inquired into the influence of location as a factor in attention. There remain those devices to which we seem especially sensitized or tuned through heredity or experience. In general, we may say that to those situations in our environment to which we instinctively react and which have the power of arousing our desires, we are also sensitized so that our attention to them shall be guaranteed. Such sensitivity may be readily explained on survival grounds. The thirsty individual, with his desire to drink, must be tuned to perceive the means of satisfying that desire if he is to survive. If, for instance, the largeness of an object were a more potent stimulus than water to a thirsty individual, he might never find among competing larger objects the small spring that would satisfy his thirst. So true is this that to say that one has an instinctive tendency of a given sort *means* both a tendency to react and a tendency

to perceive readily the object of the reaction. Hence, all that we have said concerning the relative strength of natural desires and also acquired desires may be applied directly in our search for effective attention devices. As stated in Chapter IV, little experimental work has been done upon the determination of the relative strength of desires; and accordingly of the relative strength of appeals to them. The illustrations in Chapter III, however, show the effectiveness with which such appeals are being used, and in Chapters V and VI something is said concerning the methods of determining the proper appeal to use in specific instances.

There are certain devices which seem to partake of both the mechanical and the interest character, and concerning these whatever specific evidence is available will be presented. These devices are color and picture.

REASONS FOR ATTENTION VALUE OF COLOR

Color owes some of its power in attracting the attention to the fact that its use furnishes a very simple means of creating difference, that is, of making one object stand out from another. Advertising makes much use of color for this purpose. But color seems to have potency in itself because those colors which are physically the strongest or most intense are not always colors which have the highest attention value for man or animal. Bees, and possibly other like species, depend upon color in the search for their food, and many animals are attracted to their mates by virtue of their specific coloring. Young children very early show an interest in color which cannot be accounted for solely because of its contrast value. In our study of color in this chapter no attempt will be made to separate these two conditions of attention. However, the esthetic and feeling value of color will be reserved for later discussion.

In considering the attention value of color it must be clearly understood that it may perform other useful functions besides attracting attention. For example, color may

be effective because it reproduces a commodity or its container or its trade-mark in its real colors; because it may lend distinctiveness to an advertisement; because it may transmit something of the atmosphere of the article itself. But observation of color on car cards, bill-boards, and so forth, shows that it is so frequently used for attention purposes alone that its value in this respect should be measured.

The most important fact about color as a mechanical attention device is that it will be effective only as it creates a difference between itself and its neighbors. There can be no question about the attention value of a spot of color in an otherwise colorless setting. The startling returns from color pages in mail-order catalogues, where they are said in some cases to bring 30 times as many returns as a black-and-white page, are due to their unusual character in such a setting. It is evident, of course, why the mail-order catalogue as a result of the discovery of the value of color does not use color throughout its entire catalogue. Starch quotes a case in which coloring one single word in an advertisement meant increasing returns from it by one-third. Such exceedingly large returns can come only where the use of color is rare. There is little doubt that as the proportion of color to black and white in magazine advertising increases, the attention value of advertisements using it will decrease. It has been predicted that 15% to 20% of color is all that a modern magazine may safely carry.

INFLUENCE OF COLORS ON LEGIBILITY OF COPY

Where attention value decreases from too common use of single colors, combinations of color are sometimes substituted which by the unusualness of the combination or of the pattern will attract attention. There is a special danger in using combinations of color for attention purposes. When one color is laid upon another as a background the visibility of type or picture may be so low as to cause difficulty in the perception of it. Considerable notice has been taken of

TABLE 50

LEGIBILITY OF COLORED LETTERS ON COLORED BACKGROUNDS*

Order of Value	Printed Matter	Background
1 (greatest)	Black	Yellow
2	Green	White
3	Red	White
4	Blue	White
5	White	Blue
6	Black	White
7	Yellow	Black
8	White	Red
9	White	Green
10	White	Black
11	Red	Yellow
12	Green	Red
13 (least)	Red	Green

*Luckiesh.

this fact in connection with the use of two colors in automobile license plates. The most notorious example is perhaps the use of white letters on a gray background which created an unusually low visibility or legibility of the numbers. The writer has seen car cards with purple letters on a blue background which had even a lower degree of legibility than white on gray. But the same difficulty is encountered, although to a slighter extent, in reading many car cards and even some magazine advertisements. The general rule can be laid down that legibility depends upon relation of color to background and that the all important factor is *brightness difference*. A red is, indeed, very different from green, but red letters upon a green ground or vice versa have extremely low legibility because red and green normally have nearly the same brightness value. Table 50 is taken from Luckiesh¹ and shows the order of legibility of the various color combinations, when printed matter of one color is placed upon a background of another color. Reference to this table shows that while black print on a yellow background gives the highest legibility, red on green

¹Luckiesh, M., *Light and Color in Advertising*, 1923, p. 250.

gives the lowest legibility. Now black and yellow have the maximum brightness difference, except black and white. This latter combination, if the white is very bright, loses some of its legibility through irradiation, or a kind of glare.

The relative intensities of colored lights measured photometrically may be seen in Table 51.¹ The intensity of the colors is expressed as a ratio of the intensity of white light which is taken as 1.00.

TABLE 51
RELATIVE INTENSITIES OF COLORED LIGHTS*

White light	1.000	Brick Red	.283
Yellow	.938	Blue-Green	.221
Orange-Yellow	.864	Blue	.161
Orange	.579	Violet	.125
Hering-Red	.348	Indigo	.120
Green	.348		

*Rice.

Comparison of Tables 50 and 51 shows that certain color combinations seem to have low legibility that on the basis of intensity differences ought to have high legibility. For example, green letters on a white background have a greater legibility than blue letters on a white background, while green is nearer white in intensity than is blue. Such discrepancies appear in many of the studies of the effect of color because of the variations in the colors themselves. Green light is different in quality and intensity or brightness from green paper or green fabric. Even colored papers manufactured by the same firm under the same conditions vary considerably from time to time. Studies of attention value of the different colors may be expected to vary among themselves for this reason. Still other reasons for variation from experiment to experiment are to be found in the quality of background used and in the intensity of the general illumination. For example, it is well known that as the general illumination is dimmed, the intensity of the blues decreases much less rapidly than that of the reds. In the

¹Rice, D. E., "Visual Acuity with Lights of Different Colors and Intensities," *Archives of Psychology*, Number 20.

TABLE 52
ATTENTION VALUE OF COLOR*

Color	Men	Women	Both
Red	19.5	32.2	25.9
Orange	19.5	10.8	15.2
Yellow	0.08	6.5	3.7
Green	19.3	18.8	19.1
Blue	5.3	10.8	8.1
Purple	1.7	8.2	5.0
Black	33.5	12.2	22.9

*Gale.

earlier experiments at least these variables were not rigidly controlled. With these cautions in mind we may examine the studies of attention value of colors.

MEASURING ATTENTION VALUE OF COLOR

The figures most frequently quoted are those of Gale,¹ obtained from an experimental study the conditions of which should be noted. Bradley colored papers were used—red, orange, yellow, green, blue, purple, and black. Squares of these one inch in size were pasted on a white cardboard. The cardboard thus prepared was exposed by means of a momentary electric spark and the subjects were required to report the color they saw first. Subjects sitting in a dark room and seeing squares of color momentarily illuminated by an electric spark would have color experiences differing from those that one would get from seeing the same colored squares in ordinary daylight illumination. The records, moreover, were obtained from 16 people who made 50 observations each, of the same card. Gale's results are given in Table 52, where the figures are in terms of the percentage of the time that a given color was seen first.

The low attention value of yellow is obviously due to the fact that yellow papers are weak in color tone and that the illuminating spark was itself yellow and tended therefore to

¹Gale, H., *University of Minnesota Studies in Psychology*, 1920, pp. 55 ff.

make the yellow look whiter than it should. These results could scarcely be applied to advertising problems.

Adams¹ arranged an experiment which should be free from the errors present in the study just described. He used Bradley colors on a white cardboard background, but had only four colors on a card and allowed one exposure only for each person, who was required to report the color seen first. The cards were seen in daylight illumination. Table 53 gives the results of this experiment in terms of the percentage of times each color was seen first.

TABLE 53
ATTENTION VALUE OF COLORS*

Color	Men	Women	Both
Red	16.3	21.2	18.6
Orange	25.2	17.2	21.4
Yellow	12.4	11.5	12.0
Green	10.1	15.5	12.6
Blue	17.9	14.7	17.0
Violet	5.2	5.9	5.5
Black	12.8	14.0	13.4
Gray	0.0	1.4	0.7

*Adams.

The relative values given in this table may be more safely followed than those of Gale, yet it must be remembered that there may be as great a difference between two reds as between a red and a violet. It is not merely the color but its richness and brightness that determine attention value.

ATTENTION VALUE OF COLORED ADVERTISEMENTS

Several experiments have been performed with advertising material to determine the attention value of color. The conditions in these experiments are quite complex, and it is not at all possible to get from them a notion of the relative attention value of the different colors, but merely

¹Adams, H. F., *Advertising and Its Mental Laws*, pp. 117 ff.

the effect of color as contrasted with no color. Attention, too, as we have pointed out before, is usually complicated with memory. In addition, the other numerous ways in which advertisements differ from each other must be reckoned with in drawing conclusions. The experiments of Strong and Hotchkiss and Franken, with the *Saturday Evening Post*, and previously described, furnish some data on this question of color. For example, the latter found that when they assigned a value of 1.00 to the average black-and-white full-page advertisement, the average full-page in color had a value of 1.13. The other figures are given in Table 54.

TABLE 54
ATTENTION VALUE OF COLOR IN ADVERTISING*

Full-page	Black and white	1.00
Full-page	Colored	1.13
Double-page	Black and white	1.47
Double-page	Colored	1.12
Double-page	($\frac{1}{2}$ black and white, $\frac{1}{2}$ colored)	1.28

*Hotchkiss and Franken.

Strong found that when a full-page black-and-white advertisement was assigned a value of 1.00, a double-page advertisement, the only colored one, had a value of 1.49. He says, further, that a number of the full-page black-and-white advertisements were actually better than the double-page colored. Another interesting unpublished experiment was arranged so as to test the attention value (by the recognition test) of the same advertisement appearing in color for one group of subjects, and in black and white for another group of subjects. Under these conditions the colored page was only 11% better than the uncolored. However, both advertisements had an unusually high score. When all the black-and-white and colored advertisements in the magazine were considered, the colored were only 90% as good as the uncolored.

Nixon¹ has made the most direct attack upon the ques-

¹Nixon, H. K., "Attention and Interest in Advertising," *Archives of Psychology*, 1924, Number 72.

tion of the attention value of color in advertisements. His method was described in Chapter VIII and his results are comparable with those of Gale and Adams, working with simple colors, as far as freedom from memory and other disturbing factors is concerned, although he was interested merely in color versus non-color. "For the purpose of this experiment and those following, our usual procedure of having color on one side and black and white on the opposite was used. The colored were as often on the right as on the left. They appeared as often with advertisements having pictures of people, those having borders, those of simple layout, as with those having pictures of objects, those without borders, those of complex layout. A colored advertisement was taken to be any that made use of color, no matter how little or in what fashion. The factors being thus controlled, our question is: Will a colored advertisement tend to be fixated in preference to a black-and-white one?" Table 55 summarizes the results of this experiment.

TABLE 55
INFLUENCE OF COLOR ON ATTENTION*

Particulars	NUMBER OF ADVERTISEMENTS	
	44 Colored	44 Non-Colored
Percentage of First Fixations	52.5	47.5
Percentage of Time Spent Out of 10 Seconds	50.5	49.5
Percentage of Time Spent Out of 30 Seconds	49.5	50.5

*Nixon.

Thus we see that color has some advantage over black and white as far as first attracting the attention is concerned. Most, if not all, of this advantage is lost when attention extends over a period of 10 seconds; and when the period of observation is extended to 30 seconds there is a slight advantage of black and white over color. The differences, however, in the case of the 10- and 30-second periods are too small to have any significance. If color is to be used merely as an attention-getting device, it would seem from these figures that it does, on the whole, serve its purpose.

Having attracted the attention to the advertisement, it becomes the function of other characteristics of the advertisement to hold the attention and make it effective. But color may do more than merely attract the attention. This is suggested by the Recall Value of Colored versus Non-colored obtained by Nixon. Considering the records of all persons taking part in the experiment, a colored advertisement was recalled on the average of 5.04 times while a black-and-white one was recalled on the average 4.00 times. Too much significance must not be attached to the difference of 1.04 between these two averages, as the number of advertisements on which the figures are based is small. According to Nixon, "all we can say is that the chances are that the colored will excel in recall."

ATTENTION VALUE AND AMOUNT OF COLOR USED

It is quite possible that the attention value of color varies with the way in which color is used in the advertisement, and with the actual amount of color used. Nixon states in his work that an advertisement was considered colored no matter how little color was used or in what fashion. Brandt and Poffenberger¹ found that the amount of color used in the advertisement had some influence upon its memory value. For instance, when memory was measured in terms of pure recall (that is, when no aids to memory were provided) the correlation between amount of color and memory value was indicated by a coefficient of $+ .41$; when memory was measured in terms of recognition, the coefficient of correlation was $+ .47$. There certainly is then a positive relationship between memory value and amount of color. As there is a strong probability that recognition value resembles attention value more closely than does recall value, it may be inferred that attention plays some part in determining the influence of amount of color. The amount of color was measured merely by the judgment of the experimenters. Accurate

¹Unpublished.

measurements might have been taken, and if they changed the results at all, the expectation would be an increase rather than a decrease in the size of the correlations.

THE INFLUENCE OF THE WAY COLOR IS USED

In the same experiment three different uses of color were investigated in addition to "black and white," namely, "background colored," "article colored," and "trade name colored." The recognition method was employed in one case where the time allowed for seeing each advertisement was quite short and in another case where the exposure time was longer. The results are given in Table 56.

TABLE 56
EFFECT OF DIFFERENT USES OF COLOR*

Uses	PERCENTAGE RECOGNIZED	
	Brief Exposure	Long Exposure
Article colored	83.1	90.0
Background colored	81.2	93.6
Trade name colored	73.1	90.6
Black and white	72.5	92.5

*Brandt and Poffenberger.

The results are complicated by the factor of amount of color used. The colored trade name offered the smallest colored area in every case and stands lowest among the uses of color. The conclusion was that "the strength or weakness of the memory value of an advertisement depends not upon the coloring of a particular feature, but rather upon the presence or absence of color, however used, and upon the amount used." A comparison of the effects of long and short exposure shows that with increase of exposure time the advantage of color over black and white disappears. The average memory value for the three uses of color is 91.4 and for black and white is 92.5. This result confirms the findings of Nixon that color does have a certain immediate value but soon gives way to other features. Stated in another way we may say that when advertisements are seen

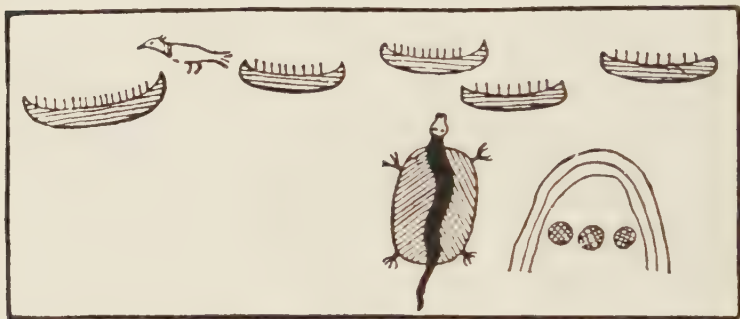
for very brief moments of time, it is the outstanding features which are most effective, and color, when used in any considerable quantity, is very likely to be such an outstanding feature. When, however, an advertisement is seen for a longer period, other features of the advertisement compete on very favorable terms with color.

THE PICTURE

A picture, like a color, has great attention value for two reasons. An advertisement containing an illustration in the midst of many others without illustrations will naturally attract attention because it is so very different. But a picture is inherently attractive to people quite independently of this contrast effect. Next to the actual experience of an event comes a representation of it in the form of a picture, as far as a sense of reality, comprehension, and directness of appeal are concerned. Human beings have always been interested in the activities of others, and whether one attributes it to native curiosity or to native sociability, makes no difference in the importance of the fact. The earliest form of graphic communication known is the picture. By its means important events in history were recorded in one age and comprehended by succeeding ages. H. G. Wells, in his *Outline of History*,¹ gives splendid illustrations of the "Picture Writing" of the American Indian. For instance, Figure 68 was painted on a rock on the shore of Lake Superior. "It records an expedition across the lake, in which five canoes took part. The upright strokes in each indicate the number of the crew and the bird represents a chief, 'The Kingfisher.' The three circles (suns) under the arch (of heaven) indicate that the voyage lasted three days, and the tortoise, a symbol of land, denotes a safe arrival." Figure 69 represents "a petition sent to the United States Congress by a group of Indian tribes, asking for fishing rights in certain small lakes. The tribes are

¹Page 169.

represented by their totems—martens, bear, manfish, and catfish—led by the crane. Lines running from the heart and eye of each animal to the heart and eye of the crane denote that they are all of one mind; and a line runs from the eye of the crane to the lakes, shown in the crude little 'map' in the lower left-hand corner."



Wells, H. G., *Outline of History*; The Macmillan Company, 1920.

Figure 68: Picture language is effectively used to tell a story. (See page 271)

Once we know a few symbols, these pictures become full of life and action. Such a means of communication, although direct and forceful, was cumbersome and difficult to execute with the primitive writing devices, so that gradually pictures became simpler and simpler, due to need for speed and ease of construction. In Chinese writing, for example, "a mouth was originally written as a mouth-shaped hole, and is now, for convenience of brushwork, squared; a child, originally a recognizable little mannikin, is now a hasty wriggle and a cross; the sun, originally a large circle with a dot in the center, has been converted, for the sake of convenience of combination, into a crossed oblong, which is easier to make with a brush."

PICTURES UNIVERSALLY UNDERSTOOD

Today our highly developed printed and written language fails in some cases to communicate a universal message and the more primitive pictorial symbols are resorted to. For

example, Wells points out that such picture writing is found "in international railway time-tables upon the continent of Europe, where a little black sign of a cup indicates a stand-up buffet for light refreshments; a crossed knife and fork, a restaurant; a little steamboat, a transfer to a steamboat; and a postilion's horn, a diligence. Similar signs are used



Wells, H. G., *Outline of History*; The Macmillan Company, 1920.

Figure 69: This picture tells a story full of action, and may be read after a few symbols are understood. (See page 271)

in the well-known Michelin guides for automobilists in Europe, to show a post-office (envelope) or a telephone (telephone receiver). The quality of hotels is shown by an inn with one, two, three, or four gables, and so forth."

State highways mark their dangerous curves with pictures of curves and not with words, where directness and force of the message to the speeding automobilist are imperative and comprehension must be immediate if he is to act in time enough to prevent an accident.

In advertising today the directness and force of the message are all important, while modern methods of picture reproduction have made speed and ease of construction relatively unimportant. Hence, pictures are rapidly assuming an important place in the communication of an advertising message, not so much as substitutes for printed language as on a par with it. Take, for example, the advertisement



Some folks have a distorted vision of value!

Think that if an overcoat is high priced enough it must be good!

Maybe it is—but it's lots better value when you get just as good a coat at a lower price.

There are a lot of fancy priced overcoats being advertised in this town—

But our overcoats at anywhere from \$45 up are the last word in value!

Scotch Mists*, ulsters, greatcoats, fur-lined, fur-outside.

Everything men and boys wear.

*Registered Trademark.

ROGERS PEET COMPANY

Broadway at Liberty	Broadway at Warren "Five Corners"	Broadway at 13th St Fifth Ave. at 41st St.
Herald Sq. at 35th St.		

reproduced in Figure 70. The message contained in the first sentence is even more directly and forcefully transmitted by way of the illustration. The wide-spread popularity of the illustrated newspaper and magazine, the so-called tabloid newspaper which tells its news largely in pictures, and the Sunday supplement shows that people enjoy getting their news through pictures. The universal appeal of the motion picture which carries its message to people of all ages and classes with a minimum of printed information shows the possibilities for advertising. When advertising meets limitations and obstacles because of the failure of sections of the population to comprehend the printed message in English, the pictograph or picture language may be resorted to.

The prevalence of picture language in current literature is well demonstrated in the following paragraphs taken from a current magazine.

More needs to be said of the news-stand. It is the peep hole of the contemporary intellect.

Standing six feet away, we look at rows of conventional pictures like band carving on an

Figure 70: The use of picture language in advertising to supplement the printed word

Egyptian tomb. They are, in fact, picture writing and spell a primitive message by hieroglyphs. The young girl's figure repeated with variants tells us crudely that youth is desirable; the plump baby hieroglyphs say that infancy is sweet; the semi-nude designs announce that woman's neck and arms are beautiful; the ragged boy symbols remind us of happiness. It is a picture language, and if we had the Egyptians' sense of symbols and the Egyptians' craft, word writing might be dispensed with, even in the advertisements.

Someone has said recently that a fairly good artist could illustrate a Supreme Court decision and make it electric with adventure and achievement.

Weber¹ made a study of the influence of visual aids in learning and found that "in developing a concrete visual image, pictorial presentation is more effective than verbal; this increase in learning is characterized by more memories, clearer ideas, better organization, and less misinterpretation; and verbal description, when aided by pictorial presentation, is the most effective method of the three. . . . In developing a relatively abstract concept, verbal description, aided by a diagrammatic representation, is probably more effective than verbal description alone."

INDIVIDUAL AND GROUP DIFFERENCES IN THE NEED FOR PICTURES

People differ in the degree to which pictures are necessary as an aid to comprehension. It is probably true that the more one is accustomed to read and think in terms of language symbols the less he is dependent upon picture symbols. In fact, Francis Galton, one of the first great students of "Individual Differences," found that scientific men as a class seemed either unable to call up mental pictures of objects and events or if they could do so, found them useless as aids to understanding and thinking. Still scientific books and encyclopedias are well illustrated.

¹Weber, J. J., *Comparative Effectiveness of Some Visual Aids in Seventh Grade Instruction*, 1922.

In addition to those who do not need images in their thinking, there are those who need them but who have difficulty in arousing them in response to the presence of word symbols. The following series of words, if read one at a time, will, in the case of some readers, call up vivid mental pictures, clear and rich in detail, while in others little or no imagery of this sort can be detected.

Home	Apple	Stream Line	Hospitality
Grass	Comfort	Loud Speaker	Sealed Containers
Cold	Ambition	"That School-Girl Complexion"	
	"Pies like Mother used to Make"		

For persons of the first sort, pictures would not be essential; to the second group, who have difficulty in arousing images, illustrated advertising should be more effective than mere copy in delivering a message. There are two experimental studies which support these statements. Hollingworth¹ in testing the relative value of five machinery advertisements upon ten engineers, by the "Order of Merit" method, found that those advertisements which were largely illustration were rated very high by some judges and very low by others, and that the same was true of those which were largely copy. For instance, advertisement *B*, which was nearly all copy, was given the following positions by ten judges:

B—5, 5, 1, 4, 5, 1, 1, 1, 1, 2

An advertisement which was largely illustration was given the following positions:

A—4, 3, 2, 3, 2, 3, 4, 4, 4, 1

Both advertisements were considered very good by some judges and very poor by others. Strong² found the same differences in a study of the persuasiveness of ten advertisements for a certain brand of soup. Some of the advertisements were all illustration, some were all copy, and others

¹Hollingworth, H. L., *Advertising and Selling*, 1913, pp. 9 and 108.

²Strong, E. K., "Relative Merit of Advertisements," *Archives of Psychology*, Number 17.

varied in the proportion of these two factors from one-fourth to three-fourths. The persons tested seem to fall into two groups, as shown in Table 57. The figures are in terms of position above or below the average position assigned a specimen by all of the judges. Thus, the advertisement which had no copy was placed by group *A* 4.2 places below the average position, while it was placed by group *B* 3.1 places above the average.

TABLE 57

GROUP DIFFERENCES IN REACTION TO ADVERTISEMENTS*

Kind of Advertisement	Group A	Group B
All illustration	-4.2	+3.1
$\frac{3}{4}$ illustration	+0.3	-0.6
$\frac{1}{2}$ illustration	+0.4	+0.5
$\frac{3}{4}$ copy	-0.8	+0.7
All copy	+1.2	-1.1

*Strong, E. K.

In dealing with large audiences as advertising does, too much attention should not be paid to class and group differences. The two studies just quoted show that illustrations vary in their persuasiveness value, but the differences are clear cut only in the case of "all illustration" or "all copy." Hence, the conclusion which would best fit all classes would be that it is safest to use both illustration and copy for comprehension and persuasiveness, unless one is dealing with a limited group or class known to be peculiar in its reaction to pictures.

DATA FROM ADVERTISING CAMPAIGNS

All the evidence that has been adduced from experiment and from statistical records of sales and inquiries seems to support this conclusion. Strong¹ obtained records of the relative value of small watch advertisements run in news-

¹Strong, E. K., *Bulletin of the Association of National Advertisers*, Number 8.

papers with and without illustration. The illustration consisted simply of the picture of a watch. In terms of inquiries from the advertisements the illustrated ones were 124% superior; in terms of actual sales 33% superior; and in terms of experimental results (when judged for persuasiveness) 62% superior. The greatest difference was, therefore, in terms of inquiries. This undoubtedly means that the illustrated advertisements had greater attention value, and attracted many persons who could not be made purchasers. But even a superiority of one-third would in this particular case have been a good return on the cost of the illustration. It is extremely difficult to draw general conclusions from studies of this nature, because so much of the attention value of any advertisement depends upon its surroundings, upon the competition for attention, and so forth. If the illustrated advertisement, for example, happened to be the only illustrated one in the paper at the time, it would have high attention value for that reason alone. The very same advertisement, in the midst of other illustrated competitors, might have very poor attention value.

Starch¹ reports a study of the effect of illustration in direct-by-mail advertising. In terms of numbers of inquiries, the letters without a cut had a value of 16.3%, and those with a cut had a value of 29.3%. These data may be taken more nearly at their face value than those from the experiment just described, as the conditions were under control to the extent that the only respect in which the two groups of letters consistently differed was the presence or absence of the cut. So commonly accepted is the view that illustrations are indispensable that one would today have difficulty in finding cases of "copy only" for study. Where an actual picture is absent its place is usually taken by highly decorated borders or elaborate type-faces which partake somewhat of the character of illustration.

It is not enough to know that effective advertising de-

¹Starch, D., *Principles of Advertising*, p. 515.

mands the use of illustrations. There are so many possibilities in the make-up of illustrations in respect to size, quality of art work, and so forth, that the additional question must be asked concerning the most appropriate character of the illustration for a given purpose. It may be intended to do one or more of the following:

First, to catch the attention;

Second, to facilitate comprehension of the advertising message;

Third, to arouse desire on the part of the reader;

Fourth, to produce a pleasant feeling-tone in the reader;

Fifth, to impress upon the mind the appearance of the article itself or its trade name.

Usually an illustration is intended to perform more than one of these functions and sometimes all of them may be embraced in one picture.

The functions of illustrations mentioned above will be examined from the psychological point of view.

I. ILLUSTRATIONS ATTRACT ATTENTION

Nixon¹ measured the attention-attracting power of large illustrations as compared with small illustrations, by his visual fixation method previously described. As far as first fixations are concerned, and this is the most fundamental measure of attracting power, the large was about 4% more effective than the small illustration. But when attention was measured over a period of 10 seconds or of 30 seconds, the large was less effective in *holding* attention than the small (being 88% as effective).

When pictures containing people and those containing merely objects are compared in the same way, it is found that the former are superior in first fixations as well as in holding the attention, the ratio being 1.23 in favor of the pictures of people. If, now, pictures showing women, chil-

¹Nixon, H. K., "Attention and Interest in Advertising," *Archives of Psychology*, Number 72.



The Handy Man's Lock

Anybody can apply it to any door. It is the friend of the timid householder, the protector from sneak thieves, the guard of isolated buildings. Made strong to withstand assault and equipped with the finest locking mechanism. The best hardware dealers sell it.

Write today for "The Hardware that Harmonizes."

P. & F. CORBIN

*The American Hardware Corporation,
Successor*

NEW BRITAIN, CONN.

NEW YORK

PHILADELPHIA
CHICAGO

Figure 71: This advertisement has high attention value through its representation of human action.

dren, and food are set against pictures of objects, the advantage decreases but is still 1.07 in favor of the former. Over a 10-second period the advantage is still greater (ratio 1.49), and for a 30-second period greater than for first fixations but somewhat less than for the 10-second period (1.32). There seems to be no doubt from these figures that human beings pictured in an advertisement considerably increase its attention value, whether in terms of attracting attention or holding it over a period of 30 seconds.

Pictures that are full of action are more likely to attract and hold the attention than are those which are static, just as people, animals, or objects in motion in real life are more likely to attract the attention than those which are motionless. A moving display in a shop window, such as a man stropping a razor, a maid making up a folding bed or using a vacuum cleaner, will always attract observers. A student of human nature is puzzled at the interest which such essentially uninteresting displays will create. The simplest way to interpret it is just to say that one is naturally interested in activity and especially in the activity of other persons. Figure 71 is an excellent illustration of a picture representing action. It is especially effective since it is a human that is acting.

2. ILLUSTRATIONS FACILITATE COMPREHENSION

No experiments have been performed to show that understanding of the advertising message may be facilitated by means of illustrations. In fact, none seems to be necessary, because the use of illustrations in text-books, and other works where communication of information is the primary object, has so unquestionably demonstrated their value.

3. ILLUSTRATIONS AROUSE DESIRES

There is no doubt that desires, native and acquired, may be very effectively aroused by pictures. The modern art

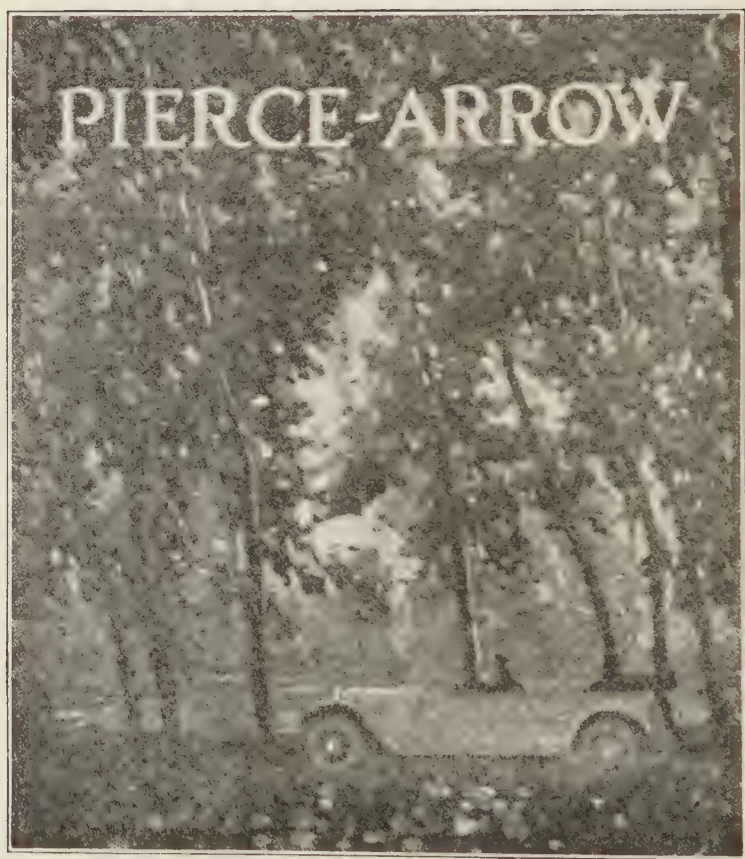


Figure 72: This advertisement is full of life and motion and suggests the pleasure of driving through the woods. (See page 285)

of picture-making and the use of color combine to make situations illustrated by pictures extremely realistic. Foods may be so pictured as to arouse the appetite; drinks may be so realistically presented as to make one thirsty. Reference to Chapter III, where natural and acquired desires are discussed and illustrated, will show that practically every one of them can be so aroused. One almost never finds a so-called short-circuit appeal in advertising presented entirely by copy today. That it can be done by "word pictures" is evident from the power that the novelist exercises over one purely by the use of words. But even he at times resorts to pictorial illustrations of the crucial points in his story. The power of pictures of persons, children, and food to hold attention better than objects as reported by Nixon is probably due largely to the desires aroused. That the impression is also a deeper one appears from the relative recall value of the two kinds of pictures. Pictures of people have a recall value of 1.69 and pictures of people, children, and food have a recall value of 1.42 when the value of pictures of objects is taken as 1.00.

Pictures representing action seem to have a special power to arouse desire. Langfeld explains it as follows:¹

An appeal through the visual representation of motion will almost invariably find the nerve paths for that motion open, and is thus bound both to get the attention of the reader and to induce in him some form of action.

The reason for this is very simple.

Whenever we will to do something we at first think of the way the muscles feel when they move. One can teach an individual to move his ear by electrically stimulating the ear so that he gets the feel of it when it moves. As soon as we have learned to perform the act well, all that we have to do is to fasten our attention on the result.

The baseball pitcher needs only to think of the ball cutting a certain corner of the plate and his faithful arm responds. The automobile driver needs only to think of going to the right, and his hand turns the wheel in that direction.

In other words, this idea or picture of what we want to do

¹Langfeld, H. S., *Associated Advertising*, April, 1920.



Figure 73: This advertisement, with its lack of suggested motion, seems lifeless in comparison with the one in Figure 72.

has the right of way to the muscles which carry out the action.

The picture of an automobile in motion starts in us a very strong motor impulse connected with the running of a certain car, and the chances are very great that when we think of wanting to ride, it will be that picture which will come into our minds, for the paths to the muscles have already been connected with the idea of that car.

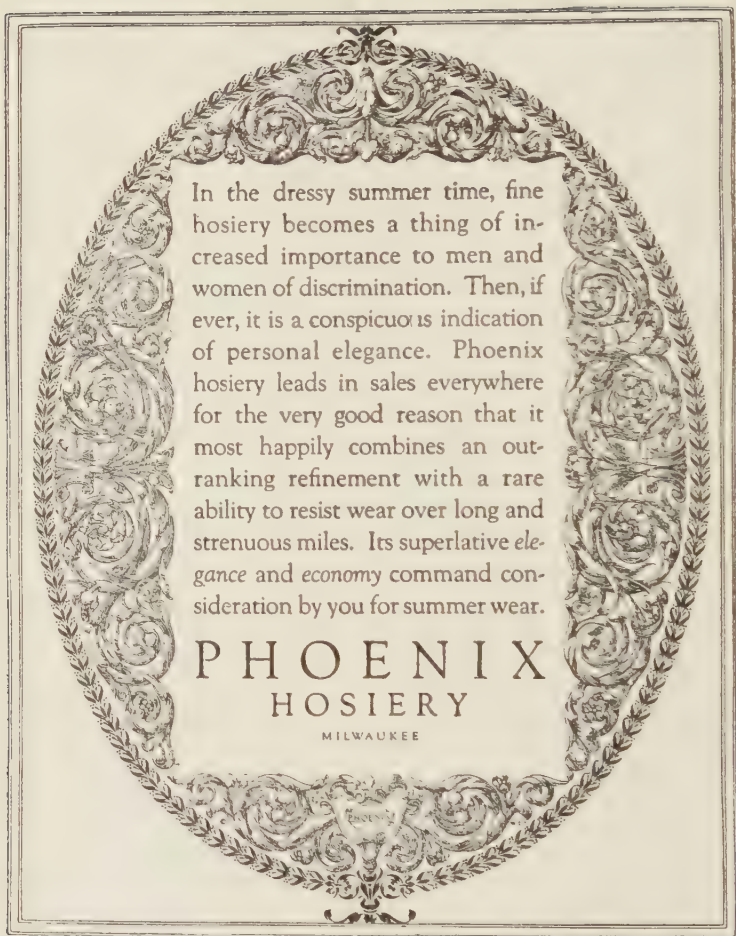
According to the above, the car in Figure 72 will have more of a pulling power than the one in Figure 73. We cannot look at the first without feeling the pleasure of driving through the woods, and our muscles are stimulated for action. That, in itself, is sufficient to arouse in us a desire for the car. The second figure has similar artistic merits, but the lack of motion makes the picture seem dead compared to the first. There is not even the idea of sitting in the car, but even if people were represented seated in the car, which is frequently the case, that would add little, for who wants to sit in a stalled car?

4. ILLUSTRATIONS INFLUENCE FEELING-TONE

The importance of arousing a pleasant feeling-tone in advertising will be discussed at length in succeeding chapters. It will suffice here to say that it may be most effectively done by means of the various art forms and color combinations used in illustrations. There are some pictures of the decorative and symbolical sort whose sole function seems to be to arouse a pleasant feeling-tone. The use of such is most common in advertising the numerous means of enhancing the personal appearance. Figure 74 represents the use of a decorative device which is almost, if not quite, elaborate enough to be called a picture. It is thus described in *Advertising and Selling Fortnightly*:¹ "An effect of charm and dignity gained by a combination of deft artistry and perfect typographical treatment. This graceful richness and femininity of design is achieved through a treatment of a very complex and florid subject that somehow contrives to produce an effect of great simplicity."

Pleasant feeling-tone through the use of decorative and

¹November 5, 1924.



In the dressy summer time, fine hosiery becomes a thing of increased importance to men and women of discrimination. Then, if ever, it is a conspicuous indication of personal elegance. Phoenix hosiery leads in sales everywhere for the very good reason that it most happily combines an out-ranking refinement with a rare ability to resist wear over long and strenuous miles. Its superlative *elegance* and *economy* command consideration by you for summer wear.

PHOENIX
HOSIERY
MILWAUKEE

Figure 74: A decorative device that carries charm and dignity with the effectiveness of an illustration (See page 285)

symbolic art works may be gained at the expense of another very important characteristic of illustrations. They should and usually do tell a specific story, and to be specific is just as important here as in advertising copy. A well-told story of one starving child will get more reaction than the account of one hundred thousand famine victims. In the same way the picture of the one will be more effective than the picture of the many. The force of the illustration in Figure 45 comes largely from the fact that it tells a very specific story.

Burt and Clark¹ made an experimental study of the facial expression of characters represented in advertising illustrations. It is assumed that facial expression is frequently an important factor in carrying the advertising message. Two specific problems were set: (1) Does the optimal degree of satisfaction portrayed in the facial expression vary with the commodity advertised? and (2) Does the apparent satisfaction in the facial expression of a photograph correspond to the actual satisfaction felt by the subject who posed for it?

Concerning the second question we need only say that the relation between the satisfaction that the person posing felt and what others judged it to be from the photograph was very close. This is in conformity with the results of earlier studies. The answer to the first question will be reported in greater detail. The material studied consisted mainly of pictures of 23 men's faces taken from current advertising and portraying various degrees of apparent satisfaction. All copy was trimmed away so that there was nothing to suggest the kind of commodity advertised. These 23 pictures were evaluated for the degree of satisfaction displayed. Then each subject taking part in the experiment was asked to indicate for which of 10 classes of commodities each picture would be most effective—that is, would most readily induce a person to buy the commodity

¹Burt, H. E. and Clark, J. C., "Facial Expressions in Advertisements," *Journal of Applied Psychology*, 1923, VII, pp. 114 ff.

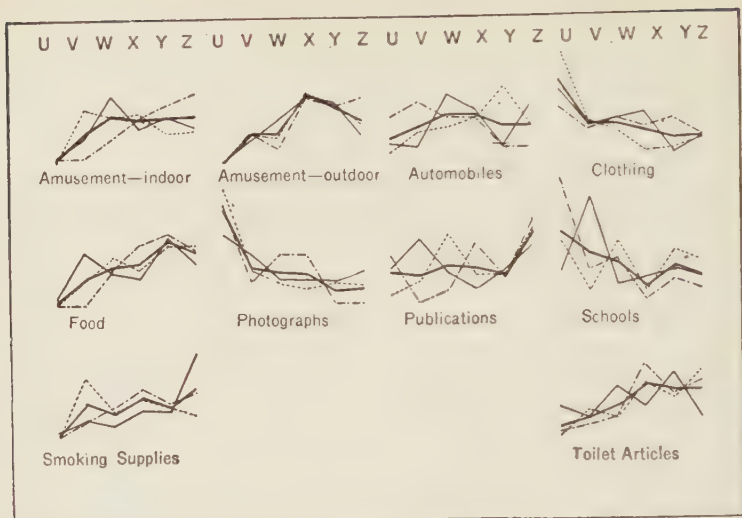


Figure 75: Curves showing the amount of satisfaction that should be demonstrated in the advertising of various commodities. U means least, and Z means most, satisfaction.

—for which it would be next most effective, and so on, until the commodity for which each picture was least effective was reached. The results of this study are shown graphically in Figure 75.

The letters U to Z indicate the degrees of satisfaction shown in the faces, U showing the least, and Z the most, satisfaction. The *heavy line* in each case indicates the average results from all subjects, lighter lines represent data from separate parts of the experiment and give some notion of the reliability of the average curve obtained from them. A glance at the chart will show that the commodities differ considerably in the degree of satisfaction which seems most appropriate. Thus, toilet articles and smoking supplies may be best represented as producing the maximum of satisfaction shown in the pictures, while photographs and clothing are best represented by the most serious expression. Automobiles seem to occupy an intermediate position. The authors conclude that, “the results are, of course, irrelevant

when the facial expression of satisfaction is itself not a selling point, but in cases where it is a selling point the conclusion may be drawn that it is undesirable to always strive for the utmost satisfaction but that the optimal amount depends on the kind of commodity advertised." Figures 76 and 77 illustrate two types of facial expression, each intended apparently to demonstrate something of the desirability of the article advertised by way of the evident satisfaction of the owner. Whether each type of expression is the most appropriate for its purpose, the reader may judge for himself.

5. ILLUSTRATIONS SHOULD BE RELEVANT

Whatever the function of the illustration may be said to be, and whatever characteristics the illustration may have, the one most essential quality is that it should be *relevant*. This statement is self-evident if we center our attention upon the *idea* or *message* of the advertiser and think of the advertisement and all its parts simply as carriers of that idea or message rather than as ends in themselves. Then certainly the illustration should be relevant, that is, should have some relation to the fundamental idea. Still, it is not difficult to find among the "best advertisements" illustrations that are entirely irrelevant or only remotely relevant to the central idea. Usually pictures of this sort are used because of their great attention-getting power. There is danger in the failure to realize that what is really desired by the advertiser is attention to his idea. To get attention to a picture and not at the same time to get attention to the idea is a waste of valuable power. The picture need not carry the whole story, although there is something to be said for such a scheme where attention is likely to be brief. But there is no reason why the picture should not both attract attention and at the same time help to deliver the real message. Current advertising affords many instances in which illustrations perform this double service.



For Christmas Give

RAZO-NIFE "NOT A DULL MOMENT"



The above illustration shows a few Razo-Nifes etched with special designs. Giving some idea of the attractiveness of the Nife and the faithful reproduction of emblems or designs.

We are the world's foremost manufacturers of advertising novelties of all kinds, badges, buttons, metal specialties, etc.

Ask for our catalog showing a complete line of good-will builders for the man at the desk. A large assortment with a wide range of prices.

A real good-will gift that your friends and customers will appreciate and use for years. Made of solid jeweler's grade, mirror polished, nickel silver with a neat design etched on the handle. You can get them plain, as shown above, or with your advertisement etched on the handle.

Uses Cast-Off Safety Razor Blades

No trouble or cost to keep it sharp. Just take one of your old safety razor blades and slip it in Razo-Nife. No screws or fasteners—just snaps into place. It will do anything that can be expected of any pocket knife, and a lot more. The hole in the knife handle makes a clever cigar cutter and the keen blade gives you a smooth clip without tearing the wrapper.

Like the finest watches, this versatile little knife is made as thin and unobtrusive as possible—only $\frac{1}{4}$ of an inch thick—the proper thing for the end of a watch chain.

Give Razo-Nife this Year

A matchless good-will builder for your business. It will be carried and used for years. We can make them up in any quantity with your advertisement, trade mark or special lettering etched on the handle. Give Razo-Nife to your customers at Christmas time—it is one of the most distinctive good-will items ever produced.

Get a Razo-Nife for your own use

You'll be immensely pleased with it; you'll find dozens of uses for it; you'll thank us for calling it to your attention. Fill out the coupon, pin a dollar bill and mail it today. At the same time ask for quantity prices.

The Greenduck Company
1725-1741 W. North Ave. Chicago, Ill.

<p>THE GREENDUCK COMPANY, 1725-41 W. North Ave., Chicago, Ill.</p> <p>Gentlemen I enclose \$1.00 for Razo-Nife for my personal use. Please give me quantity prices on Razo-Nife with and without special designs etched on handle. I understand that I incur no obligation.</p> <p>Name Firm</p> <p>Street</p> <p>City State</p>	<p>A.P. 11-19</p>
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Figure 76: Facial expression indicating the desirability of the article advertised

ATTENTION VALUE OF RELEVANT AND IRRELEVANT
ILLUSTRATIONS

Gale¹ measured the attention value of relevant and irrelevant advertising material by his method of momentary exposure, previously described, and found that the relevant had, on the whole, higher attention value than the irrelevant. It is hard to understand why this should be the case, as relevancy of a picture or any other part of an advertisement is not such a quality that it would protrude itself in a fraction of a second's exposure. He defines the relevant as follows: "Relevant words and cuts refer in general or in particular directly to the article or matter advertised, as a cut of a collar for a shirt and collar company, and the large word 'Cameras' for a dealer in photographic material. Irrelevant words and cuts have no association, as a cut of an attractive girl in an advertisement of varnishes, and the large word, 'Common Sense' for a maker of chairs." Gale's work was done about 25 years ago, when advertising was really in its infancy, and it is possible that those advertisements which were relevant were for other reasons also superior in attention-attracting power.

The results recently obtained by Nixon² on the value of relevancy deserve careful analysis. His method was reported in detail on page 182. It will be sufficient here to repeat that advertisements were made to compete in pairs for the attention of the observer—in this case a relevant against an irrelevant illustration—and the eye movements of the observer indicated the direction of his attention. His meaning of "relevant" and irrelevant" is indicated in the following quotation:

The procedure of the writer in selecting the advertisements to be used was to cover the text and ask himself what the chances were that, given the picture alone, subjects would be likely to guess the products advertised. A large number of advertisements

¹Gale, H., *University of Minnesota Studies in Psychology*, 1900. pp. 39 ff.

²Nixon, H. K., "Attention and Interest in Advertising," *Archives of Psychology*, Number 72.



For the Final Touch - So Necessary!

DEAR to every woman's heart is the gift of a WHITING & DAVIS Mesh Bag - so dainty, beautiful and useful, the final necessary touch. Here indeed is the Gift of Gifts for Christmas.

The Whiting & Davis "Delyssa"

CONTAINING two mirrors, powder compact and rouge, each in its own compartment, while beneath a separate little place of itself for handkerchief or change. The whole so light and smart as it hangs from its silver bracelet strap across the wrist.

The Whiting & Davis "Utility" *silk-lined and with vanity mirror*

IN THE dainty depths of its silken folds Milady finds ample room for those intimate articles so necessary while her mirror now awaits her pleasure with but the opening of her mesh bag.

In tapestry enameled mesh she may have colors to harmonize with her costume, or her wish may be for one in silver, gold, or the lovely blending of sunset mesh.



"Baby Peggy"

SO LIKE Mother's Whiting & Davis Mesh Bag is the "Baby Peggy," especially designed to delight the hearts of little girls this Christmas. Priced to match its tiny owner, it may be had with silken top and in enameled mesh of different colors, also gold and silver plated.

LEADING jewelers and jewelry departments, everywhere, have a complete line of Whiting & Davis Mesh Bags awaiting your selection, at prices ranging from \$5 to \$500. Send for our booklet. It will aid you in making a choice.

WHITING & DAVIS COMPANY

Dept. A-5, Plainville, Norfolk County, Massachusetts
In Canada, Sherbrooke, Quebec

Figure 77: Appropriate facial expression for indicating the desirability of the article advertised (See page 289)

having thus been placed in one of two classes, those having high probability of correct identification and those having low probability, the advertisements were then placed in the dummy in the fashion they were later to appear, a relevant one always on the page opposite an irrelevant one and other factors in balance. Two judges were then asked to go over the pages and designate which member of the pair was more relevant. In cases where they disagreed with each other or with the author the material was thrown out. Thus, in every case there existed a difference in degree of relevancy which was apparent to three people.

ILLUSTRATIONS SHOULD BE RELEVANT TO THE APPEAL

The results of this experiment for 30 subjects are given in Table 58. The figures are all in terms of ratios. In the first row of the table we read that the irrelevant received the first fixation of attention more frequently than the relevant. This difference must, of course, have been due to something other than relevancy, since that quality in itself can hardly be a source of attention. The second row in the table shows that during the first 10 seconds the irrelevant held the attention a larger proportion of the time than the relevant. In the third row we see that the difference was in the same direction and more exaggerated for the 30-second interval. There are several possible explanations for this result: (1) The fact that the irrelevant obtained more first fixations might indicate that for some reason other than relevancy or irrelevancy this group had greater attention power. (2) It is possible that the irrelevant pictures themselves had greater attention power. In fact, if one were not restricted in his choice of pictures by the need for relevancy one might readily get more striking ones than if one were so restricted. (3) The explanation offered by Nixon is that since the pictures were not relevant the reader was induced to read further into the copy in order to find out what it was all about. It would be interesting to inquire whether the inducement to "find out" was not stronger under these experimental conditions than under



Figure 78: This illustration of early advertising represents the extreme of irrelevancy. (See page 297)

every-day reading conditions, and also whether it is safe to count on curiosity in the long run to be the guiding motive instead of providing a more direct interest incentive. The last row in the table shows the recall memory value of the irrelevant to be superior to the relevant by just about one-third. It is clear then that the advantage of the irrelevant group persists through the whole experiment even to memory. The following quotation from the author is significant: "We are to keep in mind here that our memory test was a recall test, that the subject was simply to bring to mind *anything that he could think of that would serve to identify the advertisement. It should be very clear that the data are not for memory of trade names, but for the memory value of the entire advertisement.*" In another place he says: "It is quite possible that the irrelevant advertisement fails to form associative bonds of the kind favorable to later recall of the trade name and purchase of the article."

TABLE 58

ATTENTION VALUE OF RELEVANT AND IRRELEVANT PICTURES*

Particulars	Ratio of	
	Relevant	to Irrelevant
For primary fixation	.95	1.00
For first 10 seconds	.83	1.00
For total 30 seconds	.80	1.00
For memory value	.66	1.00

*Nixon.

There is a crucial question for all advertising in these quotations: Is it the advertisement or some part of it that is to be remembered, or is it the idea of which the advertisement is simply the vehicle that is to be remembered? There seems to be no reason why relevancy or irrelevancy in itself should play any particular part in attention to (or memory for) an advertisement, but there does seem to be a good reason why relevant material should contribute more directly to the memory of the advertised idea. Still, we know that curiosity, the desire to know, has some

Wayne




On the Heights of Chapultepec

At *El Castillo de Chapultepec*, standing high above the Capital City of Mexico, a Wayne Pump has been chosen to supply gasoline to the official automobile of Mexico's chief executive—the political, if not the lineal, descendant of Montezuma of the ancient empire.

And naturally so. Wayne equipment will be found wherever the desire exists for year-in and year-out dependability, continuous accuracy, and rapidity and cleanliness of operation—those essential qualities sought by expert buyers of gasoline pumps, oil storage systems, water softening systems, and air compressors, the world over.

And, too, what is more natural than that the distinction of serving leaders of governments should fall upon the leader of its industry? Wayne's position as a manufacturer of gasoline pumps, and oil storage systems has been gained by sheer superiority of product.

Wayne Tank & Pump Company, Fort Wayne, Ind.

- - - DIVISION OFFICES IN

Atlanta, Ga.	Boston, Mass.	Chicago, Ill.	Cleveland, O.	Dallas, Tex.
Detroit, Mich.	Kansas City, Mo.	Minneapolis, Minn.	New York, N. Y.	Pittsburgh, Pa.
Philadelphia, Pa.	San Francisco, Cal.			

Warehouses in Philadelphia and San Francisco

An International Organization With Sales and Service Offices Everywhere



WAYNE MAKES

Measuring Pumps

Storage Tanks
(From 20 to 25,000 gals.)

Air Compressors

Oil Burning Systems,
Furnaces and Forges

Oil Filtration Systems

as per

Wayne Rapid Ret.

Water Softening Systems
Barometric Feeders

HONEST MEASURE PUMPS

Figure 79: A modern advertisement with an irrelevant illustration (See page 297)

potency, and it may be that when not too widely used, the irrelevant may safely play upon this trait. As stated above, however, it is purely a matter of the relative potency of curiosity as compared with other possible devices that might be used with relevant pictures. Figure 78 represents the extreme of irrelevancy.¹ It is a reproduction of an early form of advertising where the purpose of the picture was merely to attract attention. Modern advertising affords no such irrelevant illustrations, although many may be found that bear no noticeable relation to the fundamental appeal. Such a case is the advertisement illustrated in Figure 79. One cannot discover from an examination of this illustration or the headline just what is being advertised. There is no guaranty that curiosity will be strong enough in the reader to send him on a search into the copy to find out what it is all about. An excellent specimen of relevant picture is to be found in the advertisement for Corbin Hardware in Figure 71. Figure 80 represents an interesting type of relevancy. At first the picture may seem entirely irrelevant, until one inquires what idea is being introduced through the advertising. It is the idea of "distinctiveness and charm." To be sure, these two qualities are derived by way of a Cadillac automobile, but it is these two qualities that one is made to desire. Just how the desire may be satisfied is told in the copy, which is mechanically tied to the picture in an effective manner.

RELEVANCY AND MEMORY VALUE

Laslett² measured the value of relevant and irrelevant pictures in terms of perception time and memory. His relevant illustrations showed the article advertised "in actual use by some one evidently of the same habits as the majority of the people who would see the advertisement." He built up two copies of the *Saturday Evening Post* from

¹See *Advertising and Selling Fortnightly*, December 3, 1924, p. 34.

²Laslett, H. R., "The Value of Relevancy in Advertisement Illustrations," *Journal of Applied Psychology*, 1918, II, pp. 270 ff.



C A D I L L A C

The Cadillac Motor Car Company
invites you to attend the first
public showing of the new and
distinctive Custom Built Cadillac-
Fisher Bodies on the V-63 chassis.

CADILLAC MOTOR CAR COMPANY
Division of General Motors Corporation

Figure 80: An interesting case of relevancy to the fundamental idea of the advertisement

material taken from earlier issues so that he should have as many strictly relevant and irrelevant pictures as possible in each copy. These were given to persons, with instructions to look through them without reading stories. The time ranged from 5 to 7 minutes. Two days later each person was allowed to make a similar inspection, and 5 days after this they were given a recall test. For the perception test each advertisement was shown separately and the time required to determine either the article advertised or the firm name was measured. The results of this experiment are given in Table 59.

TABLE 59
VALUE OF RELEVANT AND IRRELEVANT PICTURES*

Particulars	Relevant	Irrelevant
Perception Time—Average	1.00	2.40
Recall—Magazine A		
} Class A	1.00	0.29
} Class B	1.00	0.28
Recall—Magazine B		
} Class A	1.00	0.38
} Class B	1.00	0.80

*Laslett.

Two groups of people, students and women from rural communities, were tested, but the data from the student group only will be presented. All figures are in terms of ratios in which the value for the relevant advertisements is taken as 1.00. The instructions to all subjects were "that the article advertised as gum with the trade name (as, for example, Spearmint) was to be written whenever possible. In the second place those cases were to be mentioned in which either the trade name (as Standard Oil Company) or the article advertised (together with enough description of the advertisement to make its identification possible) could be given." The data for the two kinds of report were called Class A (for the definite trade name and article) and Class B (for the less definite information). These classes are shown in the table. In every case the relevant advertisements have greater memory value than the irrelevant ones.

These results are contrary to those obtained by Nixon. The explanation of the conflicting results is to be found in the terms in which the measurements were made. Laslett required that the idea underlying the advertisement be reproduced, in terms of the trade name, the firm, or other significant information, while Nixon accepted any kind of identification. The difference between the two studies is, then, just what one should expect. To be relevant a picture must be related to the fundamental idea around which the advertisement is constructed. If the measurement of recall value is not in terms of this idea, there is no reason why relevancy should have any value whatever. The problem of relevancy reduces itself, therefore, to the question of what the real function of the advertisement is—a matter which has been discussed a few pages earlier.

CHAPTER XII

PERCEPTION AND DISCRIMINATION IN ADVERTISING

The use of perceptual cues. Cues are supplemented from experience. Symbols of commodities should be distinctive. Confusion of trade names. The nature of successful imitations. Measuring the confusion among trade names. The use of a confusion scale. Measured confusion and legal infringement. The perception of an advertisement. Perception is guided by interest. Influence of repetition in perception. Confusion among advertisements. Summary.

OUR description of the attention process brought out certain characteristics of visual experience that deserve further consideration. First, it was found that at any given moment the range of attention is limited, quite limited in fact, and second, that attention fluctuates or moves about from point to point. An examination of eye movements gives a direct clue to these two facts of attention. Furthermore, we will find in connection with the study of printing type that lower-case letters are more legible than upper-case letters and that the upper half of the former are more legible than the lower half. These and many other facts like them raise the question as to what one really sees when one looks at an advertisement. Does one see everything that the artist and the typographer put there? One does not—in fact, the picture which is in the mind of the artist and which he puts on the canvas may not arouse the same picture in the mind of the observer. Only one element in the two situations is the same, namely, what we may call the object. Another element representing the general experience and special training (the sensitivities) of the artist may be entirely different from those of the observer. The second element is as important as the first. It is for this reason that the statement is made many times in this book that the artist,

the copywriter, the layout man, cannot always properly gauge what the reactions of his audience will be to his advertising. There are two sets of facts concerning perception which have an important bearing upon advertising problems.

I. THE USE OF PERCEPTUAL CUES

First, there is practically never a one-to-one correspondence between the separate items in an advertisement and what the observer experiences. One very simple demonstration of this fact is found in the so-called proof-reader's illusion. Typographical errors, such as misspelled words, creep into print in spite of the greatest care. One has to be trained to read proof properly. The reason for this is to be found in the fact that in reading, one does not see letters but words, and often not even words but phrases. It is easy to show that some letters and words are not seen at all. The reader adopts certain cues or signs which serve as short cuts for words and phrases, and finally for meanings. The fact that simple signs may carry meanings and consequently serve in place of more complicated pictures or objects is the basis of our printed language. In the same manner, shorthand becomes a still simpler set of signs which represent and serve as a substitute for longhand. Thus shorthand serves for longhand, and longhand serves for the object, so that shorthand finally serves as a sign of the object. In just such a fashion as this, simpler and simpler signs come to form the stimulus for the perceptions of our every-day life. The upper halves of letters by their varied contour furnish better signs than the lower halves and hence carry meaning more readily. Refer again to Figure 63 showing the nature of the eye movements that one makes in looking around a circle, and notice the few stopping points in the movements, each of which represents a kind of snapshot of a portion of the circle. Notice again the nature of the eye movements that are made in reading lines of print (Figure 62) and remember that from such snapshots as these the meaning of

what is read must be derived. It is to be expected, therefore, that one who looks at an advertisement, with his varied background of experience, will not see exactly what those who constructed it put into it. There are certain circumstances in which the discrepancy between what is in the objective situation and what is actually seen may be measured. Take, for example, the lines shown in Figure 81. The vertical lines do not appear to be parallel, but when accurately measured they are found to be parallel. The amount of this discrepancy between what is actually drawn on the paper and what one sees may be easily measured. Such a discrepancy between observation and physical fact is

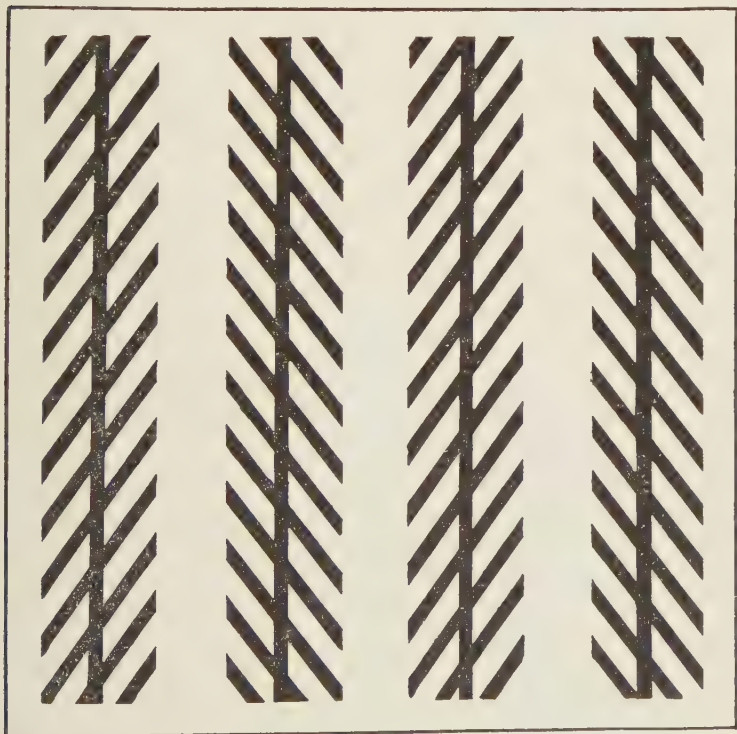


Figure 81: An illusion of perception, illustrating the discrepancy between objective facts and what one sees. The vertical lines are parallel,

called a visual illusion. They are variously explained, but in every explanation the experience of the individual is held to be the exciting cause.

One further illustration of our perceiving by means of cues or signs may be given because it represents a very common experience. Try to recall a forgotten name, especially a proper name, and carefully note the character of all unsuccessful attempts. Under such circumstances a person will often say, "I know it is a long word," or "It begins with an M," or "It has three syllables," or "It has 'L' sounds in it." No doubt the name was originally experienced in just such an incomplete fashion. Since such simple cues as these will fit many names, the wrong one or many wrong ones will often be recalled.

2. CUES ARE SUPPLEMENTED FROM EXPERIENCE

Any complex object at which one looks is normally perceived or experienced as a whole and not as a collection of parts. For example, when one looks at a circle, one does not see a series of sections corresponding to the visual snapshots that one gets, but one sees a complete circle. In looking at an advertisement one does not normally see type, white space, color, illustration, and the like, but one sees the whole as a unit. To be sure, one may sometimes analyze the whole into separate components, but as stated in the chapter on "Attention" and clearly indicated in the quotation from William James (page 202) one can see only those details in any object, whether it be an animal, a piece of architecture, or an advertisement, which one has been trained to see and which have been labeled for one. The average reader of an advertisement is not trained or prepared to make such an analysis. Even students of advertising are usually amazed at the complexity of an advertisement and only after much coaching can learn to see an advertisement not as a unit but as made of a great collection of details, such as style of type, size of type, spacing of type, art forms,

color and color combinations, and so forth. Because these details are so numerous, the degree to which these characteristics of an advertisement will be appreciated by its audience cannot be easily predicted.

The following quotation from Woodworth¹ will make these two points clear. "When we speak of a fact as being 'presented' to the eye or ear, we do not necessarily mean that it is directly and completely presented; it may only be indicated. We may have before the eyes simply a *sign* of some fact, but perceive the fact which is the *meaning* of the sign. We look out of the window and 'see it is wet today,' though wetness is something to be felt rather than seen; having previously observed how wet ground looks, we now respond promptly to the visual appearance by knowing the indicated state of affairs. In the same way, we say that we 'hear the street car,' though a street car, we must admit, is not essentially a noise. What we hear, in strictness, is a noise, but we respond to the noise by perceiving the presence of the car. Responding to a stimulus presented to one sense by perceiving a fact which could only be directly presented to another sense is exemplified also by such common expressions as that the stone 'looks heavy,' or that the bell 'sounds cracked,' or that 'the jar of fruit smells sour.' Sense perception, then, is responding to a stimulus by knowing some fact indicated by it either directly or indirectly." The bare signs or indications are supplemented in the light of the previous experience of each individual, and the perceptions must differ according to the nature of each individual's experience.

Thus we have discovered that the perception of an advertisement is at the same time less than its creators put into it and more than they put into it; less because all its parts and details are not discriminated but certain cues or signs are perceived; more because these signs or cues are then elaborated and supplemented, out of each individual's own experience.

¹Woodworth, R. S., *Psychology*, 1921, p. 421.

SYMBOLS OF COMMODITIES SHOULD BE DISTINCTIVE

A few applications of these facts to advertising will now be presented. Take a very simple case. A certain manufacturer of shaving soap puts up his commodity in a collapsible tube lithographed in diagonal green and white stripes. The carton containing the tube is similarly decorated. Another shaving soap manufacturer puts up his commodity in a tube similarly striped in blue and white. What does the purchaser see? Let us assume that he does not discriminate closely—and we know that he seldom does—but adopts the diagonal striping as the sign of the first article without, of course, any definite intention to do so, and entirely neglects the color and shape of box and forgets the trade name. Either trade-named commodity will correspond with his perception—he may unknowingly buy an imitation of the article he wants. Or, to take another very simple case, one's perception of a certain kind of soap, one's sign or cue of it, is a wrapper printed in a combination of yellow and green. If a yellow and green wrapper *means* such and such a soap, and if other brands of soap are similarly wrapped, one may make the wrong purchase. It is not necessarily the color or other decoration that will be chosen as the *sign*. It may be the shape of the container, the trade name itself, or any one of a number of other cues. Hence, the imperative need for something *distinctive*, something that will serve as an unmistakable *sign* of the particular product, since the very nature of perception demands such signs. Most advertisers are striving at present for distinctiveness of their product so that it shall stand out unmistakably from other similar products on the dealer's shelves. The C-N box, for instance, with its gable top carries a unique distinction among products which strive for distinction mainly through color or name. The box with the gable top furnishes an instructive instance because it demonstrates a very vital characteristic for perception. It is easily *labeled* in the mind—in other words, the sign has a

name. One of the greatest aids in effective discrimination is fixing or crystallizing into a name that which has been seen. Colors and color combinations fall short of being good labels in this respect. Colors, unless they are simple, pure colors, are hard to name. Even such colors as orange, purple, violet, and blue-green are not easy for many persons to fix by names. Still worse are the beautiful, newly created color tones that have never even received a name outside of the realm of the color specialist. Fortunate indeed is the product that is perceived by way of the *sign* of a "bell" or a "cross" or similar simple and distinct symbol like those in Figure 82.

CONFUSION OF TRADE NAMES

The two characteristics of perception which we have mentioned find their most important application in the realm of the trade name. All confusion of trade names and the possibility of imitation of trade names rests upon them. If in looking at a trade name, every person read every letter in every word, confusion would be reduced to a minimum. What actually happens is that in reading a trade name, only certain cues are used—exactly as the diagonal striping on the shaving-paste tube was the cue. It follows then that two different trade names may have the same cues, and hence be confused. (We are concerned here with their



Figure 82: Two symbols that are simple and distinctive

TABLE 60
TRADE NAMES AND THEIR IMITATIONS*

Original	Imitation	Article
Welcome	Welcome A. Smith	Soap
Our Little Samson	Samsoncalf	Shoes
Rubberset	Rubber-vulc	Shaving Brush
Yusea	U-C-A	Incandescent Lights
Kalamazoo Wagon	Kalamazoo Buggy	Company
Magic	Magico	Cleanser†
Uno	Ino	Medicine
S. B.	B. & S.	Cough Drops†
Liveroid	Liverine	Medicine
Beats-All	Knoxall	Lead Pencil
Pep-Kola	Pepko	Tonic
Shipmate	Messmate	Galley Stove
Worth	Our Worth	Edge Tools
Sorosis	Sartoris	Shoes
Cyco	Cyco Prize	Carpet Sweeper
Six Little	Six Big	Tailors
Maizena	Maizharina	Corn Flour
Mellwood	Mill Wood	Whiskey
Sea Foam	Sodafoam	Baking Flour
Amber Bead	Amber	Beer
Capital	Capitol	Coffee
Green River	Green Ribbon	Whiskey
Carbolineum	Creo-Carbolin	Preserving Paint
German Sweet	Sweet German	Chocolate
Momaja	Mojava	Coffee
Nitro	Nitro-Hunter	Firearms
Grenadine	Grenade	Syrup
Trenton	Trenton Style	Pork Roll
Johnston's	Johnson's	Chocolates
Willoughby Lake	Willoughby Ridge	Scythe-Stones
Cottolene	Cottoleo	Lard Substitute
Dyspepticure	Dyspepticide	Medicine
Ceresota	Cressota	Flour
Nubia	Nubias	Cigarettes

*Paynter, R. H.

†Not legal infringements.

visual appearance only.) An examination of the characteristics of trade names which have been successfully imitated, together with these imitations, will give some notion of the cues which serve the average individual in identifying trade names. Table 60, taken from the work of Paynter,¹ contains such a list of trade names and their imitations which have been judged infringements by the courts.

¹Paynter, R. H., "A Psychological Study of Trade-Mark Infringement," *Archives of Psychology*, Number 42.

THE NATURE OF SUCCESSFUL IMITATIONS

The following interpretation of these imitations is quoted from Paynter:

"In Johnston's-Johnson's the imitation is the same as the original with the omission of one internal consonant. In Capital-Capitol the imitation is the same as the original with the exception that one internal vowel is replaced by another, the imitation being similar in sound and related in meaning. In Nubia-Nubias the imitation makes the original plural by the addition of a consonant. In German Sweet-Sweet German the imitation simply reverses the positions of the two words in the original. In Ceresota-Cressota the imitation reverses the position of two adjacent internal letters, and a consonant (the same kind as the following one in the original and in the imitation) is substituted for a vowel (the same kind as the one of the two reversed letters in the imitation, and which is the second letter preceding it in the original); thus, the imitation is one syllable shorter than the original. The words resemble each other in sound and partly in significance. In Magic-Magico, by suffixing a final vowel a syllable is added, the similarity in meaning being retained. In Worth-Our Worth the imitation simply places a personal pronoun before the original. In Cottolene-Cottoleo the imitation takes the first seven letters, and substitutes for the two final letters a vowel, thereby adding another syllable. In S. B.-B & S the two initials are reversed and an ampersand is inserted between them. In Uno-Ino the imitation substitutes another vowel, similarity in meaning being also suggested. . . . In Siphon-Siphon System a word is added after the original. In West End-East End the imitation substitutes for the first word a word of the opposite meaning which is similar in length and somewhat so in appearance. In Willoughby Lake-Willoughby Ridge, for the second word is substituted another similar in length, belonging also to geographical terminology.

The most dangerous imitations are those that differ from the originals only by omitting one, two or three letters, one or two syllables or one word; those that differ from the originals only by adding one, two, or three letters, one or two syllables or one word; those that differ from the originals only by substituting one, two or three letters, one or two syllables or one word in the same or different positions in

the trade-mark; those that differ only by transpositions or reversals of one, two, or three letters, one or two syllables, or one or two words.

The success of these imitations shows the failure on the part of people to observe the letters of the words especially when they are more or less buried in the middle of the word; and shows that they take more general cues, such as the length of the word, certain letter sounds, the initial letter, and so forth. When the word is a long one, syllables may be added, subtracted, or changed. There is also a tendency to take very general cues, such as direction, with the result that East may be substituted for West or vice versa, or such as a geographical term, with the result that Ridge may be substituted for Lake.

MEASURING CONFUSION AMONG TRADE NAMES

It is evident from this brief survey of the problem of identification of trade names that it is a very complex one, indeed. So many factors are involved that it is unsafe to decide whether a given trade name is distinctive enough to be free from confusion with other trade names or to decide whether a given imitation is really an infringement. An examination of a list of infringement cases settled by the court shows no clear principles upon which decisions can rest. The ultimate criterion of confusion on the part of the public is a direct test of that confusion in the case of a sampling of the public. Such a test may be made by the application of one or more of the psychological methods of measurement described in this book. Paynter, in the study previously referred to, has made such measurements and outlined a feasible plan for testing any questionable case. It is based upon the "recognition method" and measures in terms of the percentages of a group of persons who would recognize the *imitation* as having been previously seen, when in reality they had seen the *original*. For a detailed account of Paynter's method, the reader is referred to his mono-

graph; only the main points will be stated here. A set of 20 trade names typed on slips of paper was shown to a subject at the rate of one slip per second. Immediately afterward he was given a pack of 40 slips made up of 20 trade names that had not been in the first set, 10 that had been in the first set, and 10 that were imitations of the remaining 10 of the first set. He was instructed to pick out those that he had seen before. Every time that an imitation was picked out as having been seen before, one score of confusion was checked against that imitation. After all the trade names had been thus tested, each imitation could be given a confusion value in terms of the number of persons (or the percentage of all the persons tested) who were confused. If enough cases of varying degree of confusion were at hand, it would be possible to select a series of them that would range all the way from zero confusion to 100% or complete confusion in steps or intervals of 5% or 10%. The scale shown in Table 61 was prepared in this way in so far as the data permitted. The first column of figures in the table gives the order of the trade-mark arranged according to the percentage of persons confusing the imitation with the trade-mark, and the second column of figures gives the actual percentage of confusions. The smallest degree of confusion is indicated by 1, and the highest degree by 15. It will be noted that the actual amount of confusion ranges only from 5% to 85% instead of from 0% to 100%.

THE USE OF A CONFUSION SCALE

The methods of using such a scale are described by Paynter as follows: "In order to set the limits of legal and illegal amounts of confusion it may be imagined that the legislature or the courts decided that under the conditions of these experiments an imitation causing over 30% confusion is illegal and one causing 30% or less is legal. To investigate the question of infringement or non-infringement in a new case in court, it would be necessary, by psycho-

logical experiment, to find the amount of confusion caused by the imitation in respect to its original, and then to compare this amount with the limit of infringement on the scale. This may be done in two ways:

"One way would be to test the confusion between the trade-marks in a new case just as those in the scale were originally tested. Let us suppose that Walkeasy is the original trade-mark in the new case and Waulkwell the imitation, and that 10% of the individuals confused the latter with the former, as they really do when used in connection with the name of the article. As 10% of confusion falls within the bounds of the legally allowable amount of confusion, Waulkwell is a non-infringement and is permitted to exist. If, on the other hand, Ceresota-Cressota, the conflicting trade-marks in another new case, give 80% confusion, as they do, the confusion caused by the imitation Cressota falls within the bounds of the illegal amount of confusion. It is declared an infringement and its use is restrained."

Another way of using the confusion scale would be as follows: Any pair of trade names concerning which confusion was suspected could be matched against the various specimens on this scale. The percentage of confusion of the nearest match would then be taken as the degree of confusion of the pair in question. Although at first sight this procedure seems very difficult and uncertain, it is not impossible. In fact, it is just such a method as this which is widely used for the measurement of the quality of handwriting, drawing, compositions, and so forth, in the case of school children. The main difference is that in those scales there is more than one specimen used to represent a particular point on the scale. By giving, let us say, 3 trade-name pairs for each of the 15 steps on our scale, the matching or evaluating of a new pair would be much simpler. When the independent judgments of a number of persons are averaged the results of the use of such scales are found to be fairly reliable.

TABLE 61
SCALE OF CONFUSION VALUE OF TRADE NAMES*

Original	Imitation	Order	Percentage Confusion	Legal Decision
Welcome	Welcome A. Smith	1	5	I
Golden Charm	Charm	2	10	N
Yusea	U-C-A	3	20	I
Royal Irish Linen	Royal Vellum	4	30	N
Beats-All	Knoxall	5	35	I
Shipmate	Messmate	6	40	I
Six Little	Six Big	7	45	I
Carbolineum	Creo-Carbolin	8	50	I
Momaja	Mojava	9	55	I
Grenadine	Grenade	10	60	I
Muresco	Murafresco	11	65	N
Cottolene	Cottoleo	12	70	I
Dyspepticure	Dyspepticide	13	75	I
Siphon	Siphon System	14	80	N
Nubia	Nubias	15	85	I

*Paynter.

MEASURED CONFUSION AND LEGAL INFRINGEMENT

The last column in the table gives the decision of the court concerning each of the trade-name pairs. "I" means that the imitation was an infringement and "N" means that it was not an infringement. Interesting differences appear between the actual measured confusion and the confusion otherwise determined. The imitation standing at the top of the scale, "Welcome A. Smith," and causing the least confusion is legally an infringement, while the one standing next to the bottom of the scale, "Siphon-Siphon System," and causing confusion in 80% of the cases, is legally not an infringement. Other less striking discrepancies also appear. Although the introduction of such a measuring device as this confusion scale into legal procedure for the determination of infringement would naturally meet considerable resistance, there is no reason whatever why the principle of the method could not be applied by the advertiser in choosing a new trade name or in changing from one trade name to another. The great value of good trade names when established, together with the great cost of establishing them,

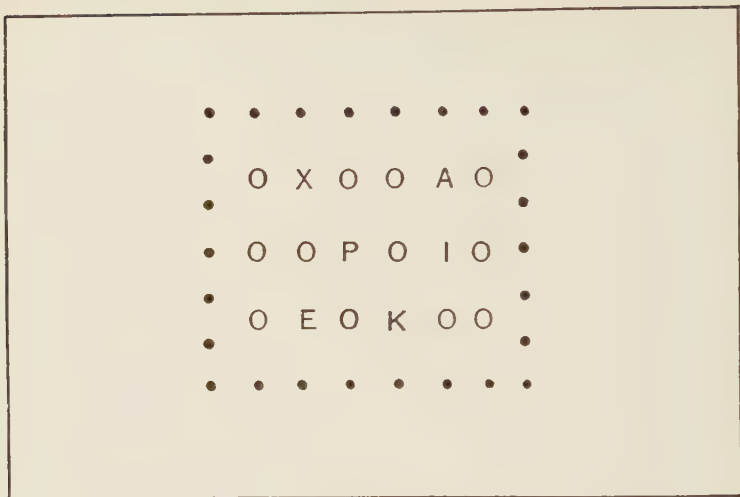


Figure 83: The "letter square" memory test

makes imperative the use of every possible safeguard against error. The aim of the advertiser should be to choose a trade name so distinctive in character that it will serve as an infallible sign of his own product and be as free as possible from danger of imitation. A thorough understanding of the facts of visual perception outlined in this chapter should be of service in accomplishing this result.

The discussion thus far has been limited to containers and trade names. The facts applied to these two cases have quite as important a bearing upon the printed advertisement as a whole. This question may now be asked: "When one glances at an advertisement what does one see?" The answer may be deduced most readily from laboratory experiments where the conditions are very simple.

THE PERCEPTION OF AN ADVERTISEMENT

The following experiment on what is called "Incidental Memory" was performed by Myers.¹ The object repre-

¹Myers, G. C., "A Study in Incidental Memory," *Archives of Psychology*, 1913, Number 26.

sented in Figure 83 was shown to a person with the request that he count the "O's." The background of this object was bright yellow in color; the letters were printed in bright red; the dot border was printed in black. As soon as the "O's" were counted the object was removed from sight and the following questions were asked:

1. What other letters did you see?
2. How many lines of letters?
3. How many letters per line?
4. What was the color of the letters?
5. Color of the paper?
6. What else did you see on the page besides the letters?
7. Draw what you saw.

The test was given to about 450 persons. The results are too complex to be presented in detail, but the following statements indicate their general nature.

PERCEPTION IS GUIDED BY INTEREST

Concerning the letters, other than "O's," that were seen, we find that not a single person recalled all the letters correctly. Only one recalled 5 and only six recalled 4, although the memory span for letters is about 5 for the average adult. On the average, about one person out of every seven could recall none of the letters. "These figures show how one's interests when strongly centered about one thing tend to exclude all else from consciousness." This simple statement carries immense importance for the advertiser. *It means that all attention devices should direct attention to the vital thing in the advertisement, since only the items of interest make a satisfactory impression, and reduce the chances that other things will be perceived.*

Concerning the color of the background, which was yellow, we find 50% reporting correctly; concerning the color of the letters (red), we find 43% reporting correctly; and concerning the color of the border we find 26% reporting correctly. "Colors were fairly well remembered but were

often assigned to the wrong part of the stimuli." There is a very pronounced tendency to answer in terms of general past experience. Of those persons who did not report the background to be yellow almost all reported it white, doubtless because white is the commonest background for printed matter. Of those persons who did not report the letters to be red, the largest number reported them black, as they would ordinarily be black. A great variety of colors was reported for the border, probably because decorative borders have in one's experience no fixed color. The fact that such a large percentage of people reported the colors correctly in this experiment shows the interest value that colors seem naturally to possess, hence the importance of employing them only in the correct relation to the essential part of the advertisement. To cite a concrete case, it is quite conceivable that a beautiful piece of color work in an advertisement may attract attention to itself to the extent that it inhibits the perception of the trade name.

These conclusions are confirmed by the investigation of Shellow,¹ who found that when attention was not specifically directed to color, form, letters, or numbers, colors were more likely to be perceived than either letters or numbers, although forms, such as a triangle, circle, star, and so forth, were somewhat more likely to be discriminated than colors.

INFLUENCE OF REPETITION IN PERCEPTION

We have clearly demonstrated that not everything in an advertisement will be seen, but rather that a few items will stand out either because of intrinsic interest or because of the use of attention-attracting devices. It is, therefore, these items which *mean* the advertisement or which stand for the advertisement. Another very important factor in determining what shall be the outstanding characteristic of the

¹Shellow, S. M., "Individual Differences in Incidental Memory," *Archives of Psychology*, 1923, Number 64.

advertisement is *repetition*. That characteristic which in a series of varying advertisements is repeated unchanged will come to stand for the whole. This fact is well known from laboratory studies of the development of perceptions. A few conspicuous examples may be cited from advertising. The sign or cue to Gold Dust advertising is the picture of the "Gold Dust Twins," the sign or cue to Campbell's Soup advertising is the "Campbell Kid," the sign or cue to Cream of Wheat is the "Colored Chef." The presence of these figures quite independent of any accompanying copy will indicate the product. These are indeed outstanding examples, but there are many more subtle forms of signs which are well identified with certain products. For example, it may be merely the *style* of illustration, the type form, or even the color or color combination that carries meaning.

CONFUSION AMONG ADVERTISEMENTS

When a sign of this sort, whatever its form, which has come to stand for a certain product, is borrowed for use with another product, a confusion is likely to occur, quite similar to trade-name confusion. But the result of the confusion will be different. Whereas a trade name used to identify the product may be imitated to the advantage of the imitator, an advertising form, when borrowed, works to the disadvantage of the borrower, since as a sign it will stand for the original to which it has become attached. In choosing any characteristic of whatever sort for advertising purposes, it is well to inquire what that character already stands for in the mind of the public. If it already has a meaning, what will be the cost of developing a new meaning for it? To illustrate this point, reference may be made (see page 555) to the word "Radior," which in the mind of the public stood for radium, with all its unpleasant connotation of cancer, disease, poison, and so forth. To make this word stand for a soothing, healing, beautifying toilet preparation would have required an educational proc-

ess of huge proportions. The story is told, by an advertising man, of a competitor of Rogers Peet & Company who announced a sale of overcoats in an advertisement which was "a shameless imitation of the Rogers Peet style." On the next day Rogers Peet & Company received more calls for the overcoat than did its competitor. In this case the *sign* is a general style rather than anything specific.

Another case may be cited. A large number of persons were asked to report what kind of food product was suggested by a verbal description somewhat as follows: A human being, usually a child or a young person, thoroughly enjoying the taste of the article advertised, or gleefully anticipating it. The face, hands, and upper part of the body are usually represented and the general expression of the features is that of pleasure and delight.

By using this verbal description all question of the influence of art forms, and so forth, was eliminated and attention centered upon the nature of the character portrayed. Notice also that it was not a specific description that would fit a single character such as the "Campbell Kid." Out of 120 persons taking part in the experiment over 40% named three articles of food, and 20% of the replies referred to one single trade-named product. A new food product, therefore, which is to come upon the market with this form of appeal, vague and general as it is, has a measurable amount of resistance to overcome in making this appeal stand for it or serve as its sign. Further examination of this instance supports our statements hitherto made. It was found that the original user of this form of illustration was almost never mentioned, while one who adopted it later had, by persistent and repeated advertising and by the use of large space and other attention devices, appropriated it for his own product. Although the connection between a commodity and its sign may be broken and another connection established, to do so is costly in both time and money.

The writer, while looking casually through a magazine recently, discovered an interesting new "Palmolive" adver-

tisement, which upon closer inspection turned out to be an advertisement for "Real Silk Hosiery." When an analysis was made to determine why this advertisement "meant" Palmolive, it appeared to be due to either the type of girl illustrated or the color scheme or both. An experiment was prepared on the basis of this observation which had some interesting results. When the illustrations were cut from about a dozen advertisements for different products including Palmolive Soap, Pet Condensed Milk, Real Silk Hosiery, and so forth, each was thought by a number of persons to be a Palmolive advertisement. Each of these advertisements used the figure or part figure of a young girl, beautifully dressed and appearing in a general color scheme in which rich reds, blues, and greens predominated. Maxwell House Coffee and Listerine illustrations were correctly identified. In the latter case the *sign* seemed to consist in the general photograph-like quality of the illustrations as well as the attitude of the characters portrayed.

SUMMARY

The substance of this chapter may be summed up in a few statements:

1. Perceptions of advertisements are incomplete.
2. That which is seen comes to stand for or to mean the whole.
3. Many commodities have certain signs which have become closely associated with them.
4. To appropriate these for other purposes means the necessity of overcoming resistance.
5. Signs are acquired by means of repetition and other attention-getting devices.
6. Confusion of trade-marks occurs because similar cues come to stand for different things.
7. The meaning of signs of all sorts and the likelihood of confusion may both be determined by psychological tests.

XIII

THE COMPREHENSION OF ADVERTISEMENTS

Intelligence and the comprehension of advertising copy. The distribution of intelligence. What the lower grades of intelligence can accomplish. The vocabulary of the lower grades of intelligence. Adjustment of vocabulary to the advertising audience. Measuring the comprehension of the advertising vocabulary. Adjustment of ideas to the advertising audience. Measuring the comprehension of advertising ideas. Danger in abstract and technical ideas. Uncertain copy should be tested. Does copy need to be understood to be successful? How may the illiterate be reached?

ONE of the most fundamental rules of a writer or a speaker is that he shall "come down to" or not go "over the heads of his audience." The speaker may get an immediate reaction from his audience that will tell him whether or not he is obeying this rule. The writer, and especially the advertising copywriter, may not always be so fortunate. His returns from any one piece or series of pieces of copy may be extremely slow and indirect. Where every word costs many dollars, it is extremely important that each shall carry a message that will pay for itself and also bring a profit. To be sure, pictures will do much to carry the message, and may at the same time hide the unintelligibility of the copy. But even motion pictures require some easily comprehended copy to make them acceptable.

INTELLIGENCE AND THE COMPREHENSION OF ADVERTISING COPY

Advertising, particularly national advertising, is mass selling, and to be effective it must appeal to the bulk of the public. It is not easy to know the ability of this vast public to comprehend the printed message. In fact, no one seems to have even guessed at the level of intelligence, so called,

of the white population of the United States until the results of the Army intelligence tests were reported. The percentage of illiteracy has received the most attention, although the much larger percentage of low degree of literacy is quite as important. The statement is made by an authority¹ that the tests showed that "nearly 30% of the 1,556,011 men, for whom statistics are available, were found to be unable to read and understand newspapers and write letters home and had to be given a special examination for illiterates." We need not here concern ourselves with the heated discussions as to whether the average adult has an intelligence of a 13-, 14-, or 16-year-old person. Most of these discussions center around the question whether printed symbols are adequate material for measuring native intelligence. We are here concerned with the capacity of the population to get the meaning of printed symbols, and with the degree to which the advertising copywriter keeps within the limits set by the capacity of the audience to which he directs his appeal. Such evidence as can be brought to bear on these questions will be presented.

THE DISTRIBUTION OF INTELLIGENCE

What is the capacity of the population to get the meaning of printed symbols?

We may receive some help in answering this question if we examine the distribution of intelligence as derived from the psychological survey of the United States Army during the war and inquire into the reading capacity of the different grades of intelligence. The estimate of 30% illiteracy includes not only English-speaking persons who could not read and write in any language but also literate foreigners who could not read or write English. Some of this latter group may be reached by advertising which is printed in foreign languages, and possibly by advertising in very simple English if it is well supported with illustrations.

¹Yoakum and Yerkes, *Army Mental Tests*, p. 12.

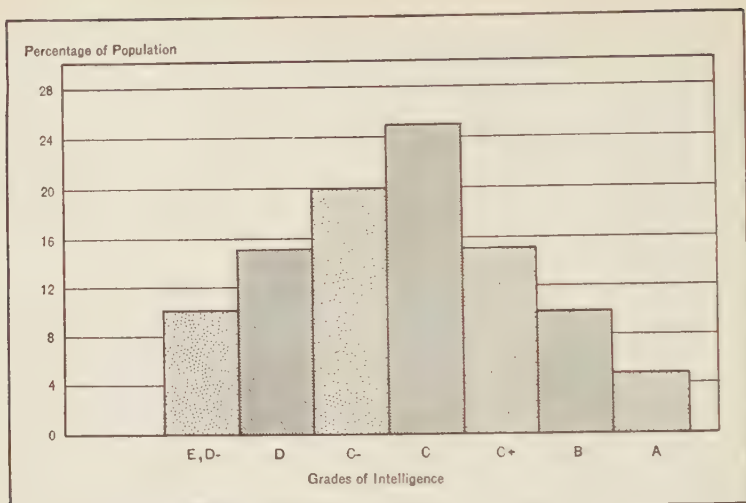


Figure 84: Graph showing the distribution of grades of intelligence in the army; it may be accepted as typical of the American population.

Figure 84 shows the distribution of the various grades of intelligence in the army, and with slight or no allowances may be taken as a sampling of the total population. Grade *A* is described as "very superior intelligence," Grade *B* as "superior intelligence," Grade *C+* as "high average intelligence," *C* as "average intelligence," and *C-* as "low average intelligence." *D* is a group with inferior intelligence, many of whom are illiterate or foreign. Grades *D-* and *E* represent men of the moron grade of feeble-mindedness. In the army *it was considered unsafe to expect D, D-, or E men to read or understand printed directions.*

Every advertisement writer must decide what proportion of the population and what level of the population he intends to address. This will depend mainly on the character of the product. If he is advertising such generally used commodities as soap, breakfast food, and the like, he will want to reach more than the upper half of the population. He will probably want to draw upon at least three-fourths of the population as his potential market. By

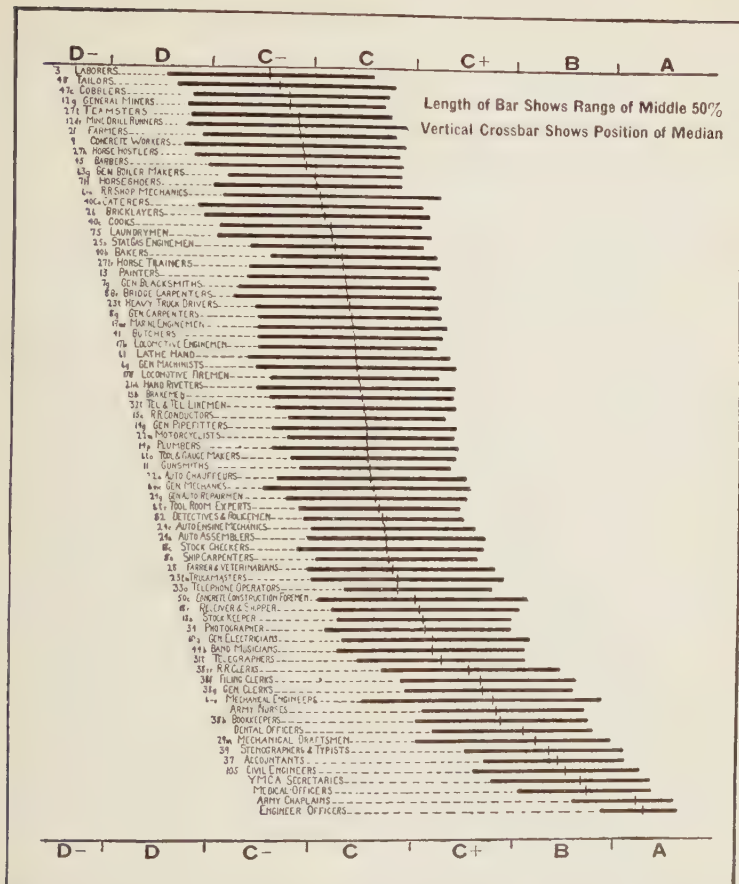


Figure 85: Graphic illustration of the intelligence of various occupational groups (See page 324)

consulting Figure 84 we see that to include three-fourths of the population the appeal must be addressed to all persons of the Grade of C— or better. Translated into terms of mental age we might say that advertising, to be understood by three-fourths of the population, must be written so as to be comprehended by a child of 11 years or older. The make-up of this three-fourths of the population

TEST 1

Get the answers to these questions as quickly as you can. Use the side of the paper to figure on, if you need to.

SAMPLE

How many are 5 men and 10 men?

Answer 15

If you walk 4 miles an hour for 3 hours,
how far do you walk?

Answer 12

- | | |
|---|--|
| <p>1. How many are 40 dollars and 5 dollars?</p> <p>2. If you save \$7 a month for 5 months, how much will you save?</p> <p>D -----</p> <p>3. If 32 men are divided into groups of 8, how many groups will there be?</p> <p>4. Mike had 11 cigars. He bought 3 more and then smoked 6. How many had he left?</p> <p>C-----</p> <p>5. A dog ran 8 miles and returned 4 miles. How far was he from where he started?</p> <p>6. How many hours will it take a truck to go 44 miles at 4 miles an hour?</p> <p>7. How many pencils can you buy for 40 cents at the rate of 2 for 5 cents?</p> <p>8. A man walked 40 miles in 5 days. The first day he walked 9 miles, the second day 6 miles, the third 10 miles, the fourth 9 miles. How many miles did he walk the last day?</p> <p>9. If you buy 2 packages of tobacco at 7 cents each, and a pipe for 55 cents, how much change should you get from a \$2 bill?</p> <p>10. If it takes 8 men 2 days to dig a 160-foot ditch, how many men are needed to dig it in half a day?</p> <p>11. A dealer bought some cows for \$900 and sold them for \$1,000, making \$25 on each cow. How many cows were there?</p> <p>12. A rectangular box holds 600 cubic feet of</p> | <p>sand. If the box is 10 feet wide and 5 feet deep, how long is it?</p> <p>13. A boy spent one-eighth of his money for post-cards and 4 times as much for candy, and then had 60 cents left. How much money had he at first?</p> <p>14. If $2\frac{1}{2}$ tons of hay cost \$20, how much will $4\frac{1}{2}$ tons cost?</p> <p>15. A boat has food to last her crew of 600 men 6 months. How long would it last 800 men?</p> <p>16. If a train goes 200 yards in 10 seconds, how many feet does it go in a fifth of a second?</p> <p>17. An automobile goes 20 miles per hour on the level and 10 miles per hour up hill. How long will it take to go 100 miles, if three-fifths of the way is up hill?</p> <p>18. If 214 men are to dig 4,066 feet of trench, how many feet must each man dig.</p> <p>19. A farm contains 2,000 turkeys, 15,000 chickens, and 1,000 ducks. If each group is expanded proportionately until there are in all 19,800, how many will there be on the farm?</p> <p>20. A shipper who had already delivered 1,807 barrels of apples to a purchaser, delivered the remainder in 28 instalments of 47 barrels each. What was the total number of barrels sold?</p> |
|---|--|

Figure 86a: A demonstration of the limited arithmetical ability of the lowest 25% of the population (See page 329)

will be more clearly understood by thinking of it in terms of the occupational groups that it would include. Figure 85 gives a graphic presentation of the intelligence (measured by their reaction to printed symbols) of different occupational groups. The letters at the top and bottom of the figure represent the intelligence grades already de-

TEST 2

This is a test of common sense. Below are sixteen questions. Three answers are given to each question. You are to look at the answers carefully, then make a cross in the square before the best answer to each question, as in the sample:

SAMPLE { Why do we use stoves? Because
☐ they look well
☒ they keep us warm
☐ they are black

Here the second answer is the best one and is marked with a cross. Begin with No. 1 and keep on until time is called.

- | | |
|--|---|
| <p>1 If plants are dying for lack of rain, you should
 <input type="checkbox"/> water them
 <input type="checkbox"/> ask a florist's advice
 <input type="checkbox"/> put fertilizer around them</p> <p>2 A house is better than a tent, because
 <input type="checkbox"/> it costs more
 <input type="checkbox"/> it is more comfortable
 <input type="checkbox"/> it is made of wood</p> <p>3 Why does it pay to get a good education?
 Because
 <input type="checkbox"/> it makes a man more useful and happy
 <input type="checkbox"/> it makes work for teachers
 <input type="checkbox"/> it makes demand for buildings for schools and colleges</p> <p>D 4 If the grocer should give you too much money in making change, what is the right thing to do?
 <input type="checkbox"/> buy some candy of him with it
 <input type="checkbox"/> give it to the first poor man you meet
 <input type="checkbox"/> tell him of his mistake</p> <p>C 5 Why should food be chewed before swallowing?
 <input type="checkbox"/> it is better for the health
 <input type="checkbox"/> it is bad manners to swallow without chewing
 <input type="checkbox"/> chewing keeps the teeth in condition</p> <p>6 If you saw a train approaching a broken track you should
 <input type="checkbox"/> telephone for an ambulance
 <input type="checkbox"/> signal the engineer to stop the train
 <input type="checkbox"/> look for a piece of rail to fit in</p> <p>7 If you are lost in a forest in the daytime, what is the thing to do?
 <input type="checkbox"/> hurry to the nearest house you know of
 <input type="checkbox"/> look for something to eat
 <input type="checkbox"/> use the sun or a compass for a guide</p> <p>8 It is better to fight than to run, because
 <input type="checkbox"/> cowards are shot
 <input type="checkbox"/> it is more honorable
 <input type="checkbox"/> if you run you may get shot in the back</p> | <p>9 Why are warships painted gray? Because gray paint
 <input type="checkbox"/> is cheaper than other colors
 <input type="checkbox"/> is more durable than other colors
 <input type="checkbox"/> makes the ships harder to see</p> <p>10 Why should all parents be made to send their children to school? Because
 <input type="checkbox"/> it prepares them for adult life
 <input type="checkbox"/> it keeps them out of mischief
 <input type="checkbox"/> they are too young to work</p> <p>11 The reason that many birds sing in the spring is
 <input type="checkbox"/> to let us know spring is here
 <input type="checkbox"/> to attract their mates
 <input type="checkbox"/> to exercise their voices</p> <p>12 Gold is more suitable than iron for making money because
 <input type="checkbox"/> gold is pretty
 <input type="checkbox"/> iron rusts easily
 <input type="checkbox"/> gold is scarcer and more valuable</p> <p>13 The cause of echoes is
 <input type="checkbox"/> the reflection of sound waves
 <input type="checkbox"/> the presence of electricity in the air
 <input type="checkbox"/> the presence of moisture in the air</p> <p>14 We see no stars at noon because
 <input type="checkbox"/> they have moved around to the other side of the earth
 <input type="checkbox"/> they are so much fainter than the sun
 <input type="checkbox"/> they are hidden behind the sky</p> <p>15 Some men lose their breath on high mountains because
 <input type="checkbox"/> the wind blows their breath away
 <input type="checkbox"/> the air is too rare
 <input type="checkbox"/> it is always cold there</p> <p>16 Why do some men who could afford to own a house live in a rented one? Because
 <input type="checkbox"/> they don't have to pay taxes
 <input type="checkbox"/> they don't have to buy a rented house
 <input type="checkbox"/> they can make more by investing the money the house would cost</p> |
|--|---|

Figure 86b: The tests of common sense here illustrated are too difficult for the lower grades of intelligence. (See page 329)

scribed. The horizontal line drawn after each occupational group indicates the intelligence range of the middle 50% of that group. The short vertical line drawn through the horizontal one marks the intelligence of the individual half way between top and bottom of the group. To the left-hand end of each horizontal line, a length should be added

TEST 3

If the two words of a pair mean the same or nearly the same, draw a line under *same*. If they mean the opposite or nearly the opposite, draw a line under *opposite*. If you cannot be sure, guess. The two samples are already marked as they should be.

SAMPLES	{ good—bad	same—opposite	
	{ little—small	same—opposite	
D	1 cold—hot	same—opposite	1
	2 long—short	same—opposite	2
	3 bare—naked	same—opposite	3
	4 joy—happiness	same—opposite	4
	5 find—lose	same—opposite	5
C	6 shrill—sharp	same—opposite	6
	7 minus—plus	same—opposite	7
	8 grim—stern	same—opposite	8
	9 careless—anxious	same—opposite	9
	10 crude—coarse	same—opposite	10
	11 commend—approve	same—opposite	11
	12 linger—loiter	same—opposite	12
	13 agony—bliss	same—opposite	13
	14 defective—normal	same—opposite	14
	15 competent—qualified	same—opposite	15
	16 knave—villian	same—opposite	16
	17 null—void	same—opposite	17
	18 wax—wane	same—opposite	18
	19 adversary—colleague	same—opposite	19
	20 altruistic—egotistic	same—opposite	20
	21 furtive—sly	same—opposite	21
	22 any—none	same—opposite	22
	23 asunder—apart	same—opposite	23
	24 deplete—exhaust	same—opposite	24
	25 superfluous—essential	same—opposite	25
	26 recoup—recover	same—opposite	26
	27 celibate—married	same—opposite	27
	28 recant—disavow	same—opposite	28
	29 avarice—cupidity	same—opposite	29
	30 aggrandize—belittle	same—opposite	30
	31 decadence—decline	same—opposite	31
	32 nullify—annul	same—opposite	32
	33 ambiguous—equivocal	same—opposite	33
	34 agglomerate—scatter	same—opposite	34
	35 plenary—complete	same—opposite	35
	36 suavity—asperity	same—opposite	36
	37 perfunctory—meticulous	same—opposite	37
	38 lugubrious—maudlin	same—opposite	38
	39 desuetude—disuse	same—opposite	39
	40 adventitious—accidental	same—opposite	40

Figure 86c: The lower grades of intelligence have only a limited use of language symbols. (See page 329)

which is about half as long as the given line to include the 25% that would fall below this point. We find then that below the C— group will fall many persons in the occupations of general blacksmith, painter, baker, cook, bricklayer, horseshoer, barber, teamster, miner, and laborer. Of the last few of these groups many more than the lowest 25%

TEST 4

The words A EATS COW GRASS in that order are mixed up and don't make a sentence; but they would make a sentence if put in the right order: A COW EATS GRASS, and this statement is true.

Again, the words HORSES FEATHERS HAVE ALL would make a sentence if put in the order ALL HORSES HAVE FEATHERS, but this statement is false.

Below are twenty-four mixed-up sentences. Some of them are true and some are false. When I say "go," take these sentences one at a time. Think what each would say if the words were straightened out, but don't write them yourself. Then, if what it would say is true, draw a line under the word "true"; if what it would say is false, draw a line under the word "false." If you can not be sure, guess. The two samples are already marked as they should be. Begin with No. 1 and work right down the page until time is called.

SAMPLES {		a eats cow grass	true . false
		horses feathers have all	true . false
	1	cows milk give	true . false
	2	write are with to pencils	true . false
	3	are and apples long thin	true . false
D	4	east the in rises sun the	true . false
	5	months warmest are summer the	true . false
C-	6	wood made carpets are of always	true . false
	7	known elephant animal an is smallest the	true . false
	8	water cork on float will not	true . false
	9	vote children 21 cannot under	true . false
	10	Battleships on seldom sails used are	true . false
	11	four hundred all pages contain books	true . false
	12	iron paper made of is filings	true . false
	13	pays cautious it be to often	true . false
	14	a general not major a and rank same the of are	true . false
	15	Washington canal 1776 Panama the in built	true . false
	16	never deeds rewarded be should good	true . false
	17	will live bird no forever	true . false
	18	gases the in Mohawks fighting used poisonous	true . false
	19	friends in us disaster often false desert	true . false
	20	external deceptive never appearances are	true . false
	21	size now of guns use are great in	true . false
	22	happiness lists great casualty cause	true . false
	23	always sleeplessness clear causes a conscience	true . false
	24	inflict men pain needless cruel sometimes	true . false

Figure 86d: The task presented in this illustration is simpler than that found in many an advertisement. (See page 329)

will be below the grade of C—, and as quoted above, these persons cannot be expected to read or understand printed directions. A very conservative interpretation of these figures would indicate the necessity for great care in the preparation of advertising appeals which will be placed before certain classes of people.

TEST 5

SAMPLES	{	2	4	6	8	10	12	<u>14</u>	<u>16</u>
		9	8	7	6	5	4	<u>3</u>	<u>2</u>
		2	2	3	3	4	4	<u>5</u>	<u>5</u>
		1	7	2	7	3	7	<u>4</u>	<u>7</u>

Look at each row of numbers below, and on the two dotted lines write the two numbers that should come next.

	2	3	4	5	6	7	...	.....
	5	10	15	20	25	30	.....	.....
D	10	9	8	7	6	5	.....	.....
	6	9	12	15	18	21	...	...
C-	8	8	6	6	4	4	.....	.....
	3	7	11	15	19	23	.....	.....
	9	1	7	1	5	1	.....	.....
	25	25	21	21	17	17	.....	.....
	4	5	8	9	12	13	.....	.....
	21	18	16	13	11	8	.....	.....
	1	2	4	8	16	32	.....	.....
	3	4	6	9	13	18	.....	.....
	12	14	13	15	14	16	.....	.....
	25	24	22	21	19	18	.....	.....
	16	12	15	11	14	10	.....	.....
	16	8	4	2	1	$\frac{1}{2}$	.....	.....
	15	16	14	17	13	18	.....	.....
	1	4	9	16	25	36	.....	.....
	21	18	16	15	12	10	.....	.....
	4	8	10	20	22	44	.....	.....

Figure S6c: The lower grades of intelligence have great difficulty in dealing with number relations.

WHAT THE LOWER GRADES OF INTELLIGENCE CAN ACCOMPLISH

In order to make still clearer just what the low grades of intelligence are capable of doing with printed symbols,

TEST 6

SAMPLES { sky—blue :: grass—table green warm big
 { fish—swims :: man—paper time walks girl
 { day—night :: white—red black clear pure

In each of the lines below, the first two words are related to each other in some way. What you are to do in each line is to see what the relation is between the first two words, and underline the word in heavy type that is related in the same way to the third word. Begin with No. 1 and mark as many sets as you can before time is called.

1	dog—bark :: cat—chair mew fire house.....	1
2	foot—man :: hoof—corn tree cow hoe.....	2
3	dog—puppy :: cat—kitten dog tiger horse.....	3
4	wash—face :: sweep—clean broom floor straw.....	4
5	door—house :: gate—swing hinges yard latch.....	5
D	6 water—fish :: air—spark man blame breathe.....	6
	7 white—black :: good—time clothes mother bad.....	7
	8 boy—man :: lamb—sheep dog shepherd wool.....	8
C	9 roof—house :: hat—button shoe straw head.....	9
	10 camp—safe :: battle—win dangerous field fight.....	10
	11 straw—hat :: leather—shoe bark coat soft.....	11
	12 pan—tin :: table—chair wood legs dishes.....	12
	13 left—right :: west—south direction east north.....	13
	14 floor—ceiling :: ground—earth sky hill grass.....	14
	15 cold—ice :: heat—wet cold steam stars.....	15
	16 hat—head :: thimble—sew cloth finger hand.....	16
	17 Monday—Tuesday :: Friday—week Thursday day Saturday.....	17
	18 lead—bullet :: gold—paper coin silver copper.....	18
	19 skin—body :: bark—tree dog bite leaf.....	19
	20 cannon—large :: rifle—ball small bore shoot.....	20
	21 cellar—attic :: bottom—well tub top house.....	21
	22 man—arm :: tree—shrub limb flower bark.....	22
	23 suitcase—clothing :: purse—purchase money string stolen.....	23
	24 knitting—girls :: carpentry—trade houses boys lumber.....	24
	25 arteries—body :: railroads—country train crossing accident.....	25
	26 ocean—pond :: deep—sea well shallow steep.....	26
	27 revolver—man :: sting—gun hurt bee hand.....	27
	28 engineer—chauffeur :: locomotive—iron stack engine auto.....	28
	29 terrier—dog :: Jersey—City cow horse State.....	29
	30 airplane—air :: submarine—dive engine ship water.....	30
	31 esteem—friends :: despise—forsake detest enemies people.....	31
	32 hospital—patient :: prison—cell criminal bar jail.....	32
	33 tears—laughter :: sorrow—joy distress funeral sad.....	33
	34 yes—no :: affirmative—win debate deny negative.....	34
	35 establish—abolish :: begin—work year end commence.....	35
	36 order—confusion :: peace—part treaty war enemy.....	36
	37 education—ignorance :: wealth—poverty riches health comfort.....	37
	38 10—100 :: 1000—money 10000 20000 wealth.....	38
	39 imitate—copy :: invent—study Edison machine originate.....	39
	40 historian—facts :: novelist—fiction Dickens writer book.....	40

Figure 86f: These tests of simple logical relations are too difficult for the lowest quarter of the population.

a part of one of the forms of the Army Intelligence Examination is presented in Figures 86a to 86g showing about how far in each test the *D* grade and the *C*— grade can go. The line opposite which *D* is placed indicates approximately the upper limit for the *D* grade, and the other line indicates approximately the upper limit for the *C*— grade. No attempt

TEST 7

Notice the sample sentence:

People hear with the eyes ears nose mouth

The correct word is ears, because it makes the truest sentence.

In each of the sentences below you have four choices for the last word. Only one of them is correct. In each sentence draw a line under the one of these four words which makes the truest sentence. If you can not be sure, guess. The two samples are already marked as they should be.

SAMPLES		People hear with the	eyes	<u>ears</u>	nose	mouth
		France is in	<u>Europe</u>	Asia	Africa	Australia
1	Boston is in	Connecticut	Rhode Island	Maine	Massachusetts	
2	Euchre is played with	dice	rackets	cards	pins	
3	The Arabian is a kind of	horse	goat	cow	sheep	
4	The most prominent industry of Milwaukee is	<u>fish</u>	<u>brewing</u>	<u>flour</u>	automobiles	
5	Turquoise is usually	yellow	red	green	blue	
6	The Leghorn is a kind of	cow	horse	fowl	granite	
7	Arthur Brisbane is famous as a	newspaper man	comic artist	athlete	actor	
8	Shoes are made by	<u>Swift & Co.</u>	<u>Smith & Wesson</u>	<u>W. L. Douglas</u>	<u>Babbitt Co</u>	
9	Blanche Sweet is known as a	writer	singer	suffragist	movie actress	
10	"The makings of a nation" is an advertisement of a	tobacco	flour	beer	health food	
11	Country Gentleman is a kind of	wheat	corn	hay	oats	
12	The artichoke is a vegetable	fish	lizard	snake		
13	Yale University is at	New Haven	Annapolis	Ithaca	Cambridge	
14	Tokio is a city of	India	China	Egypt	Japan	
15	Diamonds are obtained from	mines	reefs	elephants	oysters	
16	Rodin is famous as a	poet	painter	sculptor	composer	
17	The chameleon is a	bird	reptile	insect	fish	
18	The thyroid is in the	shoulder	neck	head	abdomen	
19	Dioxigen is a disinfectant	food product	patent medicine	tooth paste		
20	The U. S. S. Michigan is a	destroyer	monitor	submarine	battleship	
21	The cutlass is a kind of	sword	musket	cannon	pistol	
22	The Corona is a kind of	phonograph	multigraph	adding machine	typewriter	
23	Indigo is a food	drink	color	fabric		
24	The xylophone is used in	lithography	music	stenography	book-binding	
25	Madras is a drink	fabric	food	dance		
26	The author of "The Scarlet Letter" is	Hawthorne	Poe	Stevenson	Kipling	
27	John Wesley was most famous in	literature	science	war	religion	
28	The Delco System is used in	plumbing	fling	ignition	cataloguing	
29	Rubber is obtained from	ore	petroleum	trees	hides	
30	Darwin was most famous in	literature	science	war	politics	
31	Falstaff appears in	Romola	Vanity Fair	Oliver Twist	Henry IV	
32	The number of a Korean's legs is	two	four	six	eight	
33	Perjury is a term used in	pedagogy	law	theology	medicine	
34	A tedder is used in	farming	fishing	hunting	athletics	
35	Slice is a term used in	bowling	golf	tennis	football	
36	The Battle of Lexington was fought in	1620	1775	1812	1864	
37	The kilowatt is used in measuring	rainfall	wind power	electricity	water power	
38	The Buick car is made in	Toledo	Flint	Buffalo	Detroit	
39	Among the allies of Germany is	Bulgaria	Norway	Rumania	Portugal	
40	An eight-sided figure is called a	trapezium	scholium	parallelogram	octagon	

Figure 86g: Showing the limited range of information of grades C— and D

will be made to explain the details of the examination, such as time limits, and so forth. As the test is administered, the time allowed for each part of the examination is limited, but it has been found that limiting the time makes little difference in the final score. The reader should note carefully the nature of the various tasks that can and cannot be done by

these two grades of intelligence. This should give a fairly good clue as to how advertising must be prepared to reach as low as the *C* grade, remembering that to be intelligible to all of this group one must write down to the upper limit of the *D* group.

VOCABULARY OF THE LOWER GRADES OF INTELLIGENCE

Still better evidence, although of a more limited sort, may be obtained from another intelligence examination, the Stanford Revision of the Binet-Simon Intelligence Test.¹ This examination contains a vocabulary test of 100 words which was derived "by selecting the last word of every sixth column in a dictionary containing approximately 18,000 words, presumably the 18,000 most common words in the language. The test is based on the assumption that 100 words selected according to some arbitrary rule will be a large enough sampling to afford a fairly reliable index of a subject's entire vocabulary." This vocabulary test is so standardized that one can tell about what words the average child of a given age can be expected to know. Taking our statement made above, that printed matter to be understood by the upper three-fourths of the population must be intelligible to a child as young as 11 years, we can get some indication of the vocabulary that may be safely used. The vocabulary of the average 11-year-old child is 6,300 words, which means that in our sampling of 100 words he can comprehend 35 or 36. An examination of the accompanying list will give an indication of what words can and cannot be understood by the 11-year-old. The words above the line can be understood and those below cannot.

gown
tap
scorch
puddle
envelope
rule

southern
lecture
dungeon
skill
ramble
civil

guitar
mellow
impolite
plumbing
noticeable
muzzle

¹List of words reproduced with the permission of the Houghton Mifflin Company.

health
eye-lash
copper
curse
perk
outward

orange
bonfire
straw
roar
haste
afloat

quake
reception
majesty
treasury
misuse
crunch

 11-YEAR LIMIT

insure
nerve
juggler
regard
stave
brunette
hysterics
Mars
mosaic
bewail
priceless
disproportionate
tolerate
artless
depredation
lotus
frustrate
harpy
flaunt
ochre
milksoop
incrustation

retroactive
ambergris
achromatic
perfunctory
casuistry
piscatorial
sudorific
parterre
shagreen
complot
forfeit
sportive
apish
snip
shrewd
repose
peculiarity
conscientious
charter
coinage
dilapidated
promontory

avarice
gelatinous
drabble
philanthropy
irony
embody
swaddle
exaltation
infuse
selectman
declivity
laity
fen
sapient
cameo
theosophy
precipitancy
paleology
homunculus
limpet

ADJUSTMENT OF VOCABULARY TO ADVERTISING AUDIENCE

To what degree does the copywriter adjust his vocabulary to his audience?

With our little knowledge of the make-up of the advertiser's audience, complicated by the constant shifting of buying power from the professional classes to the laboring classes, it is not safe to cling to an untested opinion on this matter. Moreover, it is a question which lends itself readily to experimental measurement. If one wants to know whether his copy is intelligible to his audience let him try

it on a sampling of that audience. A very interesting illustration of the need for such a check may be drawn from the field of industry. A series of short lectures on the "Elimination of Unnecessary Fatigue" was delivered at the noon hour in a group of factories. The purpose was to show the worker what he himself might do toward reducing fatigue. In certain cases it was discovered, more or less by accident, that the workmen did not know what it was all about, because they did not know the meaning of "Fatigue." The following studies are intended to show whether or not such tests are necessary and at the same time to show how they may be made.

All the words,¹ excluding the names of articles, were gathered from 190 advertisements appearing in one issue of the *Saturday Evening Post*, *The Ladies' Home Journal*, and the *Woman's Home Companion*. There were in all 6,378 words and when all repetitions of various sorts were eliminated, there remained 3,796 different words. This list of words was checked against the words appearing in the *Teacher's Word Book*, prepared by E. L. Thorndike. This is an alphabetical list of the 10,000 words occurring most commonly in a count of about 625,000 words from literature for children and 40 other sources, including the Bible, English classics, elementary school text-books, daily newspapers, and a collection of correspondence. Of our list collected from the advertisements, only 4% failed to appear in the *Teacher's Word Book*. The copywriter, therefore, seems to keep fairly well within these limits.

Among those words appearing in the advertisements that were not in the word book were the following:

abnormal	chuck holes	cumbrous
acceleration	congested	deficient
aseptically	connoisseurs	depreciation
basic	coordinated	discrimination
cantilever	culinary	disinfection

¹This study and the several that follow were reported by Poffenberger, A. T. and Goldstein, D., in the *Journal of Applied Psychology*, 1923, VII. pp. 364 ff.

dominant	inception	symbolic
drippage	modiste	tractive
eliminate	parasite	unbiased
emulate	pedestrian	unrealized
flexibility	poignant	unstintedly
formulated	rivalry	vitamines
immune	specifically	

Fifteen of the words appearing in both the advertisements and the *Teacher's Word Book* were chosen at random and presented to 37 persons, none of whom had gone through high school, who were asked to give their meaning. The percentage of errors for the different words, including no answers and wrong answers, ranged all the way from 2.7% for the word "reputation" to 73% for the word "zest." The average percentage of errors was 12. Six words appearing in the advertisement word list but not in the *Teacher's Word Book* list were now tried on the same 37 people. The percentage of errors ranged from 0 for "parasite" to 60% for "slush." Although 37 people of elementary school grade do not form an adequate sample of any one class of the population, these figures suggest that even such a word list as that in the *Teacher's Word Book* would not be an adequate guide for the copywriter to follow if he is to be certain of understanding on the part of his audience. The percentage of error was just as great for words appearing in the list as for those which were not in the list.

MEASURING THE COMPREHENSION OF ADVERTISING VOCABULARY

The following experiment with an actual advertisement shows the effect of the poor adjustment of an advertisement's vocabulary to its audience. An advertisement of the poster type for —Ham contained the following statement: "An Epicure's Way of Baking Ham." The whole appeal lay in the meaning of the word "epicure" and must have been intended to produce a favorable reaction in the lower half as well as the upper half of the population.

Another advertisement was prepared, duplicating this one in every respect except that the word "Igorot" was substituted for the word "epicure." These two advertisements were shown to each of 53 housewives with the request that they state which way of baking ham seemed to them the more desirable. Twenty-nine chose the "epicure" advertisement while 24 chose the "Igorot" advertisement, the latter indicating a preference for the savage way.

Since it appeared quite likely that some of the 29 who chose correctly may have been only guessing, they were asked to give their idea of an epicure. Seventeen of them showed that they had sufficient knowledge to make a correct choice, while the other 12 acknowledged that they knew the meaning of neither word and had no particular reason for their choice. They had chosen one merely to comply with the investigator's request. Sixty-eight percent of this sample group had failed to get the meaning which was intended. Although the illustration carried the atmosphere of a very pleasing food and made the advertisement a good one, another more readily understood word would certainly have added much to its effectiveness.

The following extracts from advertising copy contain words that are likely to be unknown to the average reader:

The glorious *heritage* of the American woman is her splendid *lissom* figure which she retains longer than the woman of any other nation. Are you retaining this *precious heritage*? You can—and that very easily. You must begin right at the beginning—get your figure right and keep it right by wearing the right corset—the Modart.

The Governor Winthrop desk refutes the *canard* that good looks and great utility are not natural allies! For the grand old lines of this grand old desk will win your eye, and its simple, well-planned interior will make even an artist be as orderly as a book-keeper.

The Norris Variety Box, with its twenty-one different kinds of exclusive candies, is like an orchestra, in which each instrument has its own distinctive tone, yet blends with the others in perfect harmony.

For this is no haphazard collection of candies, but an assortment built up with the same discriminating sense that achieves *symmetry* in a sculpture, and *cadence* in a song.

Thus the different pieces in a Norris Variety Box afford harmonious contrasts, giving zest to one another and avoiding sameness or monotony.

The artistic container that encases this assemblage of *consummate* examples of the candy-maker's art forms an *appropriate* setting for its contents, making a gift package that most favorably impresses the *recipient* on sight.

The following, copied from an Ivory Soap advertisement and clearly intended to be humorous, actually represents the extreme of a tendency in advertising copy:

We live in a scientific age. It has therefore become customary to approach all problems, both industrial and domestic, in a truly scientific manner.

Not to be outdone, let us present the following problem:

Assume that a man is taking balneal immersion (bath), using a coagulum of sodium oleate (piece of soap) which, when dropped into the balneal liquid (water), seeks its own level at the nadir of the porcelain (sinks). If, then, while the man searches diligently for the exclusive coagulum, the thermal index (temperature) of the room increases by two (or more) degrees, what has happened?

The answer, of course, is simple. The man has become irritated, if not angry.

The case was cited recently of an Eastside shopkeeper who was forced by law to display a sign which stated that the drinks that he sold were adulterated. He exceeded the requirements of the law and posted a notice to the effect that *all his flavors were highly adulterated* with the word "highly" conspicuously printed. His customers took it for granted that whatever was "highly" anything must be desirable.

ADJUSTMENT OF IDEAS TO ADVERTISING AUDIENCE

To what degree does the copywriter adjust his ideas to his audience?

It is quite evident that a person may understand every word in a sentence and yet not get the meaning conveyed by the sentence as a whole—may not get the idea in the mind of the writer. This is often due merely to the complicated structure of sentences or paragraphs. The three statements that follow are difficult to understand for this reason.

It literally is a car so far beyond anything yet marketed at anything like this low price that motor car buyers long restricted to open car purchases are awarding it a welcome so warm and widespread as to bear every aspect of a national ovation.

The new Goodyear All-Weather Tread Cushion Tire gives more cushioning, over more thousands of miles, because it is designed for lasting resilience—hollow center, indented sidewalls, All-Weather Tread—and it has tractive power and longwearing quality, too.

Short and with many ribs, silk finished—two requisites of the smartest umbrellas are here—and most beautiful silks—with one and a half to three inches Ottoman tape, satin tape and double faced borders, all black, navy, tan, brown, red, green, and purple—also all overplaid and striped silks—handles in keeping—old ivory and antique finish—some hand-painted styles—everything that is new in umbrellas—in this greatest Anniversary collection.

The copy reproduced below is difficult to grasp because of the words used and the sentence structure.

Would you see the garrets where poor, bewitched *Trilby* loved, and sang, and died? . . . the haunts of *Rodin* and Anatole France? . . . the alleys where valiant *Jean Christophe* starved and triumphed?

Highways of a thousand ambitions, byways of a thousand romances! Here they all are . . . the Quartier Latin, eternal Bohemia of unreal *verities*, lodestar of the *moonstruck* children of art.

Mark it well—it is part of the glorious spirit of France . . . part of the spirit that so impresses you once you step aboard a French Line ship.

For every French Line ship is France in miniature—in service, atmosphere, convenience, *cuisine*. Every ship has its *retinue* trained in the veritable *esprit*—charming little attentions for guests achieved only by the French.

Whether you plan a quick trip on an express liner or a leisurely crossing, the French Line service provides the route idéale. It is the line of the experienced travelers.

Further information or beautiful descriptive booklets and sailing schedules will be sent on request.

MEASURING THE COMPREHENSION OF IDEAS

To determine the degree to which the ideas presented in an advertisement are grasped by the public a series of tests was conducted. These tests took the form of the Thorndike Reading Tests which are designed to measure the degree to which one understands what he reads. A passage is presented to be read, along with a series of questions to be answered from the material read. In our tests an advertisement in its complete form together with a series of questions was used, or the copy of the advertisement was presented in typewritten form together with a series of questions bearing upon it. Nineteen sets of material representing different advertisements were tested on more than 1,000 people. The advertisements ranged in character from the simple subway car card to the elaborate automobile advertisement. As it is impossible to present the data for all the advertisements in sufficiently brief space, samples will be chosen to illustrate the method and the nature of the results.

One hundred and seven New York Subway passengers were asked to read the advertising card for the ——Emulsion which contained the following copy:

Milk is an emulsion. The ——Emulsion is emulsified 550 times finer than milk and its fat content is eight times richer than the best milk. That is why physicians and druggists all over America, when asked to name the finest emulsion, answer, The ——Emulsion. Tastes good—No Cod Liver Oil—Protects and Builds Health.

The questions on the following page were asked and the answers recorded by the investigator:

1. What is an emulsion?
2. What does "emulsified 550 times finer than milk" mean to you?
3. What is it that makes milk an emulsion?
4. Why does the —— Emulsion protect and build health?

The answers to questions 1 and 3 demonstrated that none knew the essential characteristics of an emulsion, although 46% knew that an emulsion was fatty. To others it was merely a liquid, and to still others it was merely white. Answers to question 2 showed that none grasped the significance of the statement. About 30% did say that it meant that the —— Emulsion is 550 times better than milk. Although this belief is misleading it is not damaging to the product. Sixty-four per cent believed that this emulsion would protect and build health, because "it is better than milk" (24%) or because "it is recommended by physicians and druggists" (40%). Although this advertisement may be considered effective, there is a great question whether the copywriter really "put his ideas over," and obtained the maximum effect possible.

Forty-seven women, all of whom looked like housewives, were asked to read the following car card, which is of the simple publicity sort:

——— Golden Syrup. Made from Cane Sugar. For Table
——For Cooking.

The questions asked were:

1. Why should you buy a can of ——Syrup?
2. Why does cane sugar make good syrup?
3. What other kind of sugar could be used to make syrup?

To the first question, 80% answered they would buy it because it was made from cane sugar. This was, of course, the only selling argument presented in the advertisement. But in reply to the second question it was discovered that no one knew why cane sugar would make good syrup. The answers to question 3 showed that 70% knew of no other

kind of sugar from which syrup might be made. Further questioning of those who said they would buy this product showed that it was the prestige of the trade name that was effective, and that the only actual reason given for buying this product had not done its work.

DANGER IN ABSTRACT AND TECHNICAL IDEAS

Following is the copy taken from an automobile advertisement and presented to 55 college men with the request that they read it and that they be prepared to answer one question about it.

Humanity may be a million years old in point of time, but it is as young as this morning's sun in its pursuit of the ideal. After two thousand years of disappointment and disillusion, the eternal verities and the eternal values still prevail ———. Even though it be surrounded and seemingly obscured by sham and pretense, nothing in this world is discovered so surely as solid merit———. This is the truth that embodies all truth—this is the truth that makes men free.

Thirty per cent of the group could not answer the question, which was: "What is the truth that embodies all truth?" As they did not discover that "nothing in this world is discovered so surely as solid merit," they could see no connection between this paragraph and an automobile advertisement. One person who had had experience in copy-writing agreed that "it might be part of a poor advertisement for a good automobile." It seemed useless to try this paragraph on less intelligent groups of people, who at the same time might represent better automobile prospects than the group used in our experiment.

This paragraph was difficult or impossible to understand because of its abstract ideas and the complicated character of its construction. Another case studied, that of a double-page advertisement for a new safety razor, owed its difficulty to the wealth of technical details involving a greater knowledge of physics than is possessed by the majority

of people, even of college students who have had the advantage of a course in physics. Half of the advertisement used in this experiment is reproduced in Figure 87. All that need be mentioned here is that of the 55 college students who were asked to answer a series of 7 questions about this advertisement, with the privilege of consulting it as often as desired, practically none was able to grasp the technical details on which the success of the product depended.

An automobile advertisement (Figure 88) was shown to 58 men, potential purchasers of automobiles, who were asked to read the copy as often as they needed to, and then to explain the operation of the "volatilizer." Twenty-three read it through once and refused to continue, saying it was all too technical for them. Twenty-nine others tried to explain "this great engineering achievement" by constantly referring to the advertisement and repeating its language word by word. Only six of these could show how the volatilizer could furnish an increase in motive power, with greater economy in fuel consumption. A group of 11 automobile mechanics and expert chauffeurs did succeed in understanding it. But this particular car is a moderate-priced one and in most cases is driven by the owner, who cannot be expected to understand such a technical explanation.

The following extracts from advertising copy contain ideas that are technical and difficult to understand. They are addressed to wearers of shoes, users of the toothbrush, and purchasers of automobiles.

The pure Latex of the rubber tree, freshly milled after coagulation with nothing added, nothing taken away—100% pure rubber, subjected to no treatment which impairs the natural live quality and nerve of pure rubber.

How Ipana helps build sound gum tissue.

Recognizing the great need for fighting soft and bleeding gums, thousands of dentists now use and prescribe Ipana Tooth Paste. Many practitioners have written us that in especially stubborn cases of bleeding gums, they prescribe a thorough daily massage of the gums with Ipana after the regular brushing with Ipana. For in strengthening soft gums and healing bleeding gums, Ipana has a

These three discoveries proved to be the crux of the whole problem. For the first time in any razor here is *isometric control* of blade position.

A shaving edge rigid and straight—in perfect contact with the cap through its whole length.

Here is that thing long sought but never before achieved—a shaving edge guarded from the face but free to the beard.

All in all, it took some 45,000 calculations, proved out by more than 19,000 actual shaving tests, to make the New Gillette an accomplished fact. It is now ready—the New Improved Gillette Safety Razor.

A radical improvement over the old-type Gillette, and the first shaving instrument of precision ever invented.

Gillette Fulcrum Shoulder and Overhanging Cap

AT the right you see a diagram (*much enlarged*) of this epoch-making improvement—the New Gillette Safety Razor. You see the *Fulcrum Shoulder* and *Overhanging Cap*. You see how the blade is *biflexed* between Overhanging Cap and Fulcrum Shoulder.

It is flexed once into the inside curve of the cap. This is the "minor flexure"—the curve for easy gliding action and play of the wrist in shaving.

It is flexed a second time—more sharply and on a shorter radius—by the grip of the Overhanging Cap the whole length of the Fulcrum Shoulder.

This is the "major flexure"—a mighty advance, make no mistake about that!

It holds the blade rigid and flat the whole length of the shaving edge.

It gives exactness to 1/1000 inch—a micrometric precision impossible with the old-type Gillette, and never even dreamed of with any other shaving device ever produced.

Gillette Channeled Guard

FOLLOW the New Gillette over the face, and see the results of the Channeled Guard.

The skin lies flat against the tangent of cap and guard.

The beard springs upright against the shaving edge.

The edge comes automatically against the beard at the very surface of the skin.

It cuts square across the hair—each hair slipped clean through.

Cut hairs and lather go into the Channel. They cannot jam in between blade and guard and cap.

They cannot clog the shaving action. Your razor edge is free every inch of every stroke of your shave.

75% More Efficiency and Comfort—More Shaves from Your Blades

SHAVE once over with the New Gillette, and you'll find your face smoother, cooler, fresher than after going twice over with any other razor, even the old-type Gillette.

Adjustment is automatic.

Your wonderful Gillette Blades can now give you *all* the luxury of the finest shaving edge in the world.

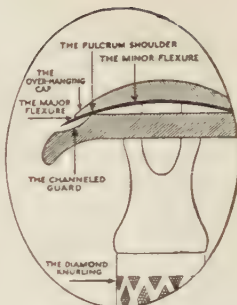
Better shave—longer service—more shaves from your Blades.

All Over the World

FOR nearly 20 years the Gillette Company has been serving men all over the world with Gillette Safety Razors and Blades.

A long-standing, world-wide resource almost without parallel—now putting this new shaving improvement at the service of the greatest number of men in the shortest possible time.

The New Improved Gillette Safety Razor will be sold by more than 250,000 Gillette Dealers in every corner of the Civilized Globe.



The New Improved GILLETTE SAFETY RAZOR

Uses the same fine Gillette Blades as you have known for years—but now your Blades can give you *all* the luxury of the finest shaving edge in the world.

Identify the New Improved Gillette by its

Fulcrum Shoulder

Overhanging Cap

Channeled Guard

Micrometric Precision

Automatic Adjustment

Diamond Guarded Handle

Diamond Trademark on Guard

Finer Shave—Longer Service

More Shaves from Your Blades

IN SILVER and GOLD

Shaving Sets and Traveler Outfits

\$5 to \$75

WORLD-WIDE PATENTS

United States	Portugal	Uruguay
Canada	Switzerland	Australia
Great Britain	Luxembourg	New Zealand
France	Poland	Philippine Islands
Belgium	Spain	Japan
Holland	Czechoslovakia	Hong Kong
Denmark	Asia Minor	India
Sweden	Hungary	Sierra Leone
Norway	Ukraine	South Africa
Germany	Romania	Cuba
Austria	Argentina	Puerto Rico
Italy	Brazil	Virgin Islands
Spain	Chile	Mexico

NOTE:—The Gillette Company assumes full responsibility for the service of Gillette Blades when used in any *genuine* Gillette Razor—either old-type or New Improved Gillette. But with *caution* of the genuine Gillette it cannot take responsibility for service of Blades.

Gillette



SAFETY RAZOR

Boston
New York
Chicago

San Francisco
Montreal
London

Geneva
Paris
Milan

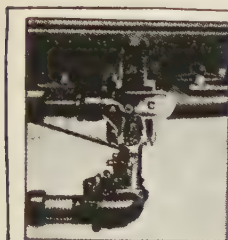
Amsterdam
Port Elizabeth
Rio de Janeiro
Buenos Aires

Sydney
Singapore
Calcutta

Constantinople
Tokyo
Madrid

Brussels
Copenhagen
Shanghai

Figure 87: The physical principles involved in the new Gillette Razor are hard to understand. (See page 341)



Close-up cut-away section shows where volatilization occurs

The Haynes volatilizer consists of a jacket that is cast about the intake manifold shown at A, or burner, which is heated by circulation through it of exhaust gases. A, from the exhaust manifold with which it is connected. The exhaust gases enter the volatilizer from its center of the exhaust manifold, circulate through the jacket and out through the exhaust tube, as indicated by the arrows. The incoming mixture as it leaves the carburetor has in suspension droplets of liquid fuel as shown at B, which are instantly vaporized when they enter the volatilizer, and leave as a highly combustible gas as shown at C. The amount of heat to the volatilizer is automatically controlled by a valve that is connected to the throttle arm, so that at very low speeds, all of the exhaust passes through the volatilizer. As the speed of the engine is increased, less heat is supplied.

The New Haynes Volatilizer is a Great Engineering Development

Haynes engineers have just achieved a notable improvement in the gasoline engine through the development of the Haynes volatilizer, which results in a decided increase in motive power with much greater economy in fuel consumption. The Haynes volatilizer was produced especially for the newly-developed, more-powerful Haynes 75 motor, and makes this modern Haynes power plant the outstanding achievement in the long, successful career of the famed Haynes engineering corps.

Through the operation of the Haynes volatilizer, the liquid fuel is broken up into atoms which thoroughly mix with the air charge, thus making a gas which is highly volatile and which gives maximum explosive force when ignited. The motor exhaust is led around the intake manifold to produce a higher temperature where the gas from the carburetor enters the inlet manifold, thus producing a fuel condition which is ideal for instant ignition and results in the attainment of extraordinary explosive force. An automatic control, operated by the accelerator or the throttle, diverts the hot exhaust gas from its passage around the intake manifold as the speed of the motor is increased, and the necessity for artificial heating of the gasoline and air charge is decreased. Motor experts are agreed that the Haynes volatilizer is a distinct advance in the development of the automobile engine, and state the new Haynes 75 motor shows a great step forward over previous systems of vaporization and combustion.

Ask to see this great engineering achievement at the local Haynes showroom.

THE HAYNES AUTOMOBILE COMPANY, Kokomo, Indiana
EXPORT OFFICE, 1715 BROADWAY, NEW YORK CITY, U. S. A.

Figure 88: The facts presented in this advertisement cannot be comprehended by the average reader. (See page 341)

very specific virtue. It contains ziratosol, a positive antiseptic and germicide, and a preparation with a recognized hemostatic value. Throughout the country ziratosol is used by dentists, after extraction, to allay the bleeding of the wound, to heal infected tissue and to restore to irritated and congested gums their normal tonicity. Indeed, Ipana, in the relatively short time that it has been before the profession, has proved itself to be the great enemy of the "pink" toothbrush.

The Ricardo Head increases the swirl of a more compact gas charge so that it is in a state of high turbulence at the instant of firing.

Figure 89 is an illustration of an advertisement which features a technical term without an attempt to explain it. Such an appeal may be very effective.

Figure 90 reproduces an advertisement which presents much technical matter. Interest is added by means of its war atmosphere. Assuming that the material that is presented in the advertisement can be understood, the question still remains as to whether more than a very small proportion of magazine readers will spend the time necessary to read through it. This particular advertisement represents a recent tendency to present long and technical copy.

The Cantilever Shoe and Your Pocketbook

Prices Are Reduced So That Many More People Can Enjoy Cantilever Comfort

AMERICAN women have responded with enthusiasm to the idea of comfort and flexibility in a good looking shoe. They have helped us to make the Cantilever Shoe an outstanding success. Year after year the sales of the Cantilever Shoe have been increasing in volume. To merit a still larger sales increase this year and to make the healthful benefits of these comfortable shoes available to an even greater number of people, we have substantially reduced the prices of all Cantilever Shoes.

Although Cantilever Shoes are now being sold at a new low price level, there has been no change in their quality. The same fine leathers, excellent workmanship and remarkable service will continue to be distinguishing features of Cantilever Shoes. We have not lowered the quality. We have not reduced wages.

We have simply lowered prices to such a degree that we believe Cantilevers have been made the most economically priced high grade shoes on the market. It is our conviction that most women will appreciate economies in footwear, and that increased demand will justify our lower prices.

Growth of
Cantilever
Shoes



If none of the dealers below is near you, write the manufacturers, Morse & Burt Co., 6 Carlton Ave., Brooklyn, N. Y., for the address of a Cantilever dealer who is more conveniently located.

Cantilever Shoes have become successful because busy women really need a shoe that will help them. The growth of the Cantilever idea has been most gratifying during the past four years. In 1920 Cantilevers were sold by sixty scattered stores. Today stores in five hundred and sixty-five cities are selling the Cantilever Shoe in ever increasing quantities.

Happiness and better health are awaiting you if you have never worn the Cantilever Shoe. The flexible arch of the shoe liberates the muscles of the foot and permits them to strengthen through exercise. (It is upon the foot muscles that the strength of the arch depends.) The natural lines, the well placed heels and the pleasingly rounded toes all contribute to the wonderful comfort of the Cantilever. And there is gentle, restful support for a weak foot, too. The snug, flexible arch of the shoe holds the bones of the arch up without restricting the foot muscles like metal arch supports.

Cantilever Shoes are made in attractive models. There are pretty pumps in one-strap, two-strap and twin-strap effects, trim oxfords and swagger sport shoes. Moderate heels in several styles add to the comfort as well as the good looks of Cantilevers.

Men's Cantilever Shoes also are reduced in price.

Cantilever Shoe



Figure 80: An advertisement which features a technical term, "cantilever," without an attempt to explain it (See page 343)

The increasing play upon scientific terms in advertising, either with or without interpretation, is, indeed, an interesting development. It presupposes a popular interest in the "scientific" which is manifested in the standing of the "scientific" appeal in the tests reported in Chapter IV, and in the popularity of magazines of the semiscientific sort. The following terms have recently appeared in advertising, none of which can have any meaning to the average reader unless supported by definitions, descriptions, and probably illustrations.

Halitosis
Dermutation
Scleroscope

Capillaction
Endocardium (Real Estate Co.)
Sialometer

The foregoing discussion suggests that there is a lack of adjustment of the vocabulary and ideas to the reading audience in some current advertising. This is true even where the audience represents a portion of the educated classes. The difficulty seems to be due here mainly to the growing tendency to present highly technical matter to the general reader. It would seem that nothing need be lost and something might be gained by presenting an appeal in entirely comprehensible words and ideas. It is the master of English who can write simple and easily comprehended English. Beyond being a master of simple English, one needs to know also the limitations of one's audience.

UNCERTAIN COPY SHOULD BE TESTED

The unfailing remedy for suspected unintelligible copy, or copy that is difficult to understand, is a very simple one. It is, "Try it on the audience." Take a sampling of that portion of the public to whom the copy is to appeal and by a series of questions, carefully prepared beforehand, find out just what is the reaction to the copy. The applied psychologist who is interested in measuring and predicting human behavior in cases of this sort relies upon no general

Is there a greater war story than this?



TO tell the story properly it is necessary to go back more than half a century to that wizard of the microscope and test tube, Louis Pasteur. In 1852 Pasteur discovered germs and subsequently proved that contagious diseases and the infection of wounds are caused by malignant bacteria.

From then on medical science did its utmost to guard mankind from germ attack. During the next sixty years the new school of preventive medicine was born. Sanitation was developed. Hospitals were kept spotlessly clean. Instruments were sterilized. Rubber gloves were worn during operations. All known microbes were studied and classified. By 1914 the medical profession felt that modern surgical methods could cope with and prevent infection of wounds.

A Grim Disillusionment

Then war engulfed the world, and oh, what a grim disillusionment followed! Early in that war—the greatest war in history—it became appallingly clear that the goal pointed out by Pasteur had not yet been reached; that man was still helpless before the savage, invisible, all-conquering germ.

The wounded poured into the Allied hospitals in overwhelming streams. Never in the history of warfare had there been so many or such wounds. The hospitals were thoroughly aseptic, no microbes could get in—the surgeons had seen to that—but the soldiers were covered with the indescribable dirt of the trenches. A bullet, a shell fragment, a bayonet thrust would gather bacteria as it passed through the clothing and deposit them deep within the vital parts of the body, there to breed galloping putrefaction while the wounded man lay on the field or in a shell hole waiting to be picked up. A simple scratch from a barbed wire barricade in the morning developed into a pus pocket by evening and amputation or death frequently followed within the week.

What is the great story of the War? Is it the story of Joffre at the first Marne or of Foch at the second? Or the story of "They shall not pass" at Verdun? Is it the story of the first gas attack at Ypres? Or of Belleau Wood? Or of the Lost Battalion? These are all great stories of super-achievements on the field of battle.

But a different sort of story stands comparison with these. It concerns a side of the war the public knows little about. It is the story of a fight by the soldiers that the science of medicine called to the colors against a countless and implacable foe. The winning of that fight saved hundreds of thousands of

The Surgeons' Problem

The surgeons turned to antiseptics. They found little or no help from what they had or knew about. In the years since Pasteur's discovery, only two types of antiseptics had been developed. One was the mild non-poisonous type. All it did was to make the surface of a wound an unpleasant resting place for the wandering microbe. If the microbe had already started raising his myriad family, it could do no more to prevent it than so much rainwater. The other type was the poisonous burning disinfectant. Though it would kill germs, it would also destroy flesh and tissue. If introduced into gaping wounds at sufficient strength to destroy germs, it would eat through cells and membranes and create conditions as bad as the infection itself. In mild permissible dilutions these poisons were not powerful enough to check infection.

The armysurgeons were in despair. If it was a wounded limb, all they could do to stop the infection was to amputate. If it was an abdominal wound, death provided the only relief from the terrible agony of pus poisoning. Seventy per cent of all wounded were dying—not from the wounds themselves, but from infection produced by the billions of germs that a wound contained.

A Fearful Crisis

In this crisis the Allied surgeons appeal to the scientific world. Back from the war hospitals through all branches of the medical profession came the cry: "Find, oh find us something that will check this fearful horror! We are helpless before such infection; we must have something to check it!"

Among those who heard the call was the Franco-American surgeon, Dr. Alexis Carrel, who in 1912 had received the Nobel Prize for medicine. Dr. Carrel, who was then serving with the French armies, secured the assistance of the famous English chemist, H. K. Dakin. Backed with money and equipment provided by a great American philanthropic institution, the two scientists went to work in an effort to find a new antiseptic. They experimented day and night, for every hour was precious, at first at Beaulieu Hospital, Paris, and later at Military Hospital 21, Compiègne. They applied every available chemical to every known

microbe that had shown itself in the war hospitals. They tried thousands and thousands of combinations. In an incredibly short time, when the magnitude of their task is considered, the two scientists made an announcement: "We think we have what you want", they said, "Try it and see".

The Turning Point

The surgeons of the Allied armies tried it and saw. They saw the fulfillment of the teachings of Pasteur. Here was the ideal antiseptic. It was non-poisonous and non-irritating. It could be used constantly in the deepest wounds without harm, yet it would destroy bacteria with an effectiveness undreamed of heretofore. Man had beaten the germ at last!

They named the new antiseptic the Carrel-Dakin Solution, in honor of its co-discoverers, and put it to work in all the Allied hospitals. Its triumph was complete. It drove the horror and agony of suppurating wounds from those hospitals as sunlight dispels shadows. Where seventy per cent of the wounded had been dying from infection, now less than one per cent died from that cause. Hundreds of thousands of men alive and whole today would be hopeless cripples or under the soil of France if the Carrel-Dakin Solution had not been found.

Is there a greater war story than this?

SEQUEL

After the extraordinary success of the Carrel-Dakin Solution in the war zone, it was quickly adapted for hospital use throughout the civilized world. It has performed the same miracles for surgical and civil wounds that it accomplished in the wounds of war. But it is limited to hospital and professional use for the following reason: The Carrel-Dakin Solution is unstable, it will not "keep". It has to be freshly made by experts every day and the mass of humanity has been denied its protection.

Ever since its discovery, however, chemists in all parts of the world have been trying to stabilize the Carrel-Dakin Solution, and American chemists finally succeeded in doing so. This meant that Zonite, as the improved Carrel-Dakin Solution is called, would keep indefinitely and could be put up in containers ready for household use.

Zonite has been distributed to druggists throughout the United

States as rapidly as possible. It has already supplanted the old-fashioned, poisonous, irritating disinfectants or the mild ineffective antiseptics in more than two million homes. It is also supplanting the Carrel-Dakin Solution in the greatest hospitals and industrial first-aid stations of the country.

Placed on the market little more than a year ago, Zonite is now guarding close to ten million people from infection and disease.

Facts About Zonite

Zonite is a colorless liquid that leaves no permanent odor. It is absolutely non-poisonous and non-irritating. At dilutions of great germicidal strength it may be used on the most delicate membranes and tissues of the human body without harm.

By scientific laboratory tests Zonite has far greater germ-killing power than pure carbolic acid! It has more than 700 times the germ-killing power of Dobell's Solution, which is the standard strength at which carbolic acid is used on the membranes of the body. Zonite may be used in a scratch or cut absolutely pure.

By scientific laboratory tests, one bottle of Zonite has more germ-killing power than ten gallons of peroxide!

Leading surgeons unqualifiedly approve of the use of Zonite for wounds and burns as the most modern and effective preventive of infection and first aid measure.

Physicians and health authorities are urging the use of Zonite as a mouth wash, throat and nasal spray as a preventive of colds and more serious contagious diseases.

Dental authorities say that the use of Zonite as a mouth wash is the most effective home preventive of pyorrhea, trench mouth and infected gums known to dental science.

The protection which this great war discovery brings to humanity, together with the latest approved methods of preventive medicine made possible by this new form of antiseptic, is described in "The Zonite Handbook on the Use of Antiseptics in the Home". A copy of this book will be mailed free of charge upon request. Address Division "H", Zonite Products Company, 342 Madison Ave., New York.

Figure 90: An advertisement containing much technical matter, made interesting by means of its war atmosphere (See page 343)

principles to guide him, but resorts to the method of sampling just as the chemical engineer or the physical engineer tests his materials by the method of sampling. And, just as in these latter cases, skill is required in obtaining the samples, in measuring them, and in drawing conclusions from the measurements. The advice of Robert Louis Stevenson, "Write so that the fool can understand you, and the wise man will understand you also," is, indeed, good, provided that one takes pains to discover what the fool can understand.

DOES COPY NEED TO BE UNDERSTOOD TO BE SUCCESSFUL?

The following question may well be raised; namely, does successful copy need to be comprehended? That copy may be effective even though the reader cannot grasp it, is possible. In fact, one of our studies reported in Chapter XXII shows that belief does not depend entirely upon understanding. It would seem that, in some cases at least, one may be flattered in having his intelligence overestimated and that scientifically sounding phrases may, by that very quality, be effective. Still, in the long run, to aim at being comprehensible would seem to be the safest course for the copywriter to follow.

HOW MAY THE ILLITERATE BE REACHED?

There is another question that must be faced. How shall the fourth or third of the population that cannot comprehend more than the most simply written English, and are very limited in their reading of magazines and newspapers, be reached? They have greater purchasing power today than ever before. The mediums which can affect them are the simple car card, outdoor posters, and containers of goods. These should be made as comprehensible as possible by means of pictures and simple words. Even trade names might be coined with the largest possible reading

audience in view. Since so many of these are made to order, simplicity in reading and pronouncing certainly should receive some consideration.

Many recently coined words are admirable from this point of view, for instance, Lux, Rit, Fab, Duz, Ken, Cal. Commodities that are adapted for wide use should have containers that may be readily identified through color and shape, as, for instance, the Uneeda Biscuit Box, and the CN package. Other commodities depend for recognition upon a simple and striking trade-mark like Vinol, Bell Telephone, and the signs of the various gasoline companies.

XIV

THE FEELINGS AND THEIR INFLUENCE IN ADVERTISING

Rationalization an indication of influence of feelings. Feelings form the undercurrent of life. Feelings are primarily pleasant or unpleasant. Feelings affect attention. Feelings affect memory. The unpleasant is forgotten. Feelings affect the whole personality. Sources of pleasant and unpleasant feelings. Natural and acquired feeling-tones. Pleasure from satisfying natural desires. Primary pleasures. Methods of measuring feelings. The "method of impression."

FEELINGS have certain characteristics that have led to their neglect in the past as influences in our daily lives. Today, however, they are rapidly being recognized as powerful factors in determining behavior. This is especially true if we broaden the meaning of the term feeling to include emotions. In our study of the different kinds of behavior, for instance, we were led to contrast the intellect or rational factor and the desire or feeling factor as motives, and concluded that the latter was more powerful than the former. In fact, we found that where there tends to be a conflict between the two, desires may win and even acquire the support of reason. Behavior motivated in this fashion was called *rationalized behavior*. In rationalized behavior we do what we want to do, and justify it as what we ought to do. The justification follows the choice of the action. Just how deeply this rationalized form of behavior goes into the actions of every-day life is a matter of dispute, but there can be no doubt that the feelings play a large part in determining our behavior. It will be our purpose in this chapter to inquire into the nature of the feelings and their bearing upon advertising problems, and in succeeding chapters to consider some of the experimental studies of the feeling reactions to advertising devices.

FEELINGS FORM THE UNDERCURRENT OF LIFE

According to Woodworth¹ feelings are simply "the way you feel," as contrasted with "knowing something." As soon as you begin to analyze your feelings and say, "I feel bad here or there, in this way or in that, you know something about yourself, but the feeling has evaporated." Feeling is always an undercurrent, a background. The foreground consists of what you are taking notice of or are thinking about or of what you are intending to do. Behind the facts observed and the acts intended lie the individual's feelings, sometimes calm, sometimes excited, sometimes expectant, sometimes gloomy, sometimes buoyant.

Attend to the noises in the street and they stand out clearly; attend to the sensations of breathing and they stand out clearly; but attend to a pleasant state of feeling and it retreats out of sight. Furthermore, one cannot locate his feelings in any particular place; they seem to be in him without being in any particular part of him. Add to this the fact that there are no known organs which are responsible for the feelings in the way that our eyes are responsible for our visual experiences or our ears are responsible for our experiences of sounds, and you have a good picture of the vagueness of the feelings. You will also have a good picture of the difficulties to be met in measuring their influence or even of detecting their presence. These difficulties are still further increased by the fact that we cannot remember or recall directly to mind our feelings in the way that we can recall our sensory experiences. We can only remember about them or recall perhaps that we had them in circumstances where they were very strong and obtrusive. Feelings must, therefore, be measured indirectly, when the subject is not concerned about them. If they are weak, as they usually are when aroused by advertising situations, a person may not be able to detect them at all. Thus a customer may prefer one necktie to another, although he can-

¹Woodworth, R. S., *Psychology*, 1921, pp. 172 ff.

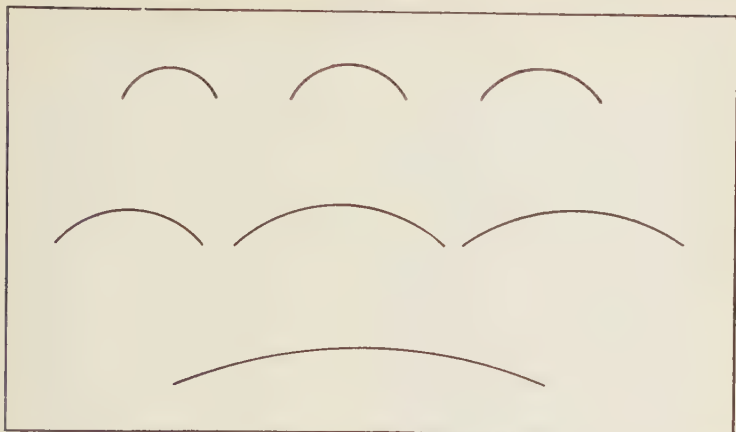


Figure 91: Even simple curved lines differ in the character of the feelings that they arouse.

not say why. He would probably detect no feelings of any sort in connection with this experience. Still, knowing the influence of feelings on behavior, we can get some notion of their nature in his case, by keeping an objective record of the sorts of things that he prefers. If a person were asked which of the lines reproduced in Figure 91 he likes best, he might say that he has no choice, but if pressed for an answer he could choose one that he prefers, if only slightly, above the others. He finds difficulty in making such a choice at first, because he is looking for his feelings of being pleased. But as we have said above, when the feelings are sought they disappear. To choose the preferred lines one must give full attention to the lines themselves and not to one's feelings.

FEELINGS PRIMARILY PLEASANT OR UNPLEASANT

Feelings differ from each other in many ways, but all feelings seem to be capable of classification into two groups, namely, those which are pleasant and those which are unpleasant, no matter how they may be otherwise described.

It is in respect to their pleasantness and their unpleasantness that we will consider them.

To quote from Hollingworth,¹ "The feeling of pleasantness is accompanied by expansive, open, appropriative bodily attitudes, and by actual movements towards the agreeable stimulus. Under these conditions, stimuli effect easy entrance to the higher levels, make strong impressions, and are long remembered. The pleasant impression tends to persist in consciousness long after the original stimulus has been removed.

"The feeling of unpleasantness, on the contrary, is accompanied by retractile, conflicting, or evasive movements, the organism tends to shrink away from the stimulus rather than to move towards it. Under these conditions the resistance of the nerve paths is increased, stimuli make relatively faint impressions and the impression tends easily to oblivesce or be forgotten."

From this brief description of the feelings we can gather certain effects that deserve our attention.

FEELINGS AFFECT ATTENTION

Feelings, pleasant or unpleasant, have an effect upon the attention. To continue to do what is pleasant and to avoid what is unpleasant is a very fundamental human trait. Indeed, it is undoubtedly a native trait and we never get entirely educated out of it. An infant a few hours old will refuse its mother's milk if it happens to be flavored with onions or some other strong smelling food. A very young infant will make ejecting movements if a bitter substance is put into its mouth and will turn its head away from the source of the unpleasantness. Although an adult may inhibit the tendency to spit out a bitter medicine, still the tendency to do so may be present. One naturally turns his head away from a light which is unpleasantly bright, or shuts his ears to a sound that is unpleasantly

¹Hollingworth, H. L., *Advertising and Selling*, 1913, pp. 139 ff.

loud, or adjusts himself so as to escape an unpleasant odor. These are very simple means of escaping what is unpleasant by shutting off the avenues of sensation.

Just as surely does one cling to what is pleasant. Children will eat too much of a pleasant-tasting substance such as candy, and even adults will often allow their tastes to get the better of their judgment. Bright colors, beautiful color combinations, pleasant odors, and harmonious and melodious combinations of tone hold our attention because they are pleasant, just as surely as ugly colors, unpleasant odors, and musical discords repel us.

FEELINGS AFFECT MEMORY

Feelings, pleasant and unpleasant, have an effect upon the memory. There is, among the laws of learning, one law called the Law of Effect. It states that in the process of learning, those experiences which are pleasing or satisfying tend to be permanently fixed, and those that are unpleasant or dissatisfying tend to disappear. In the words of Thorndike,¹ "To the situation, a modifiable connection being made by him between an "S" (stimulus or situation) and an "R" (response) and being accompanied or followed by a satisfying state of affairs, man responds, other things being equal, by increase in the strength of that connection. To a connection similar, save that an annoying state of affairs goes with or follows it, man responds, other things being equal, by a decrease in the strength of the connection.

"As a corollary to the law of effect we have the fact that the strengthening effect of satisfyingness varies with its intimacy with the bond in question as well as with the degree of satisfyingness. Such intimacy, or closeness of connection between the satisfying state of affairs and the bond it affects, may be due to close temporal sequence or to attentiveness to the situation and response. Other things being equal, the same degree of satisfyingness will act

¹Thorndike, E. L., *Educational Psychology*, Briefer Course, 1915, p. 71.

more strongly on a bond made two seconds previously than on one made two minutes previously—more strongly on a bond between a situation and a response attended to closely than on a bond equally remote in time in an unnoticed series.”

That is to say, not only does a satisfying experience make a more permanent impression, but the more closely the satisfaction is associated with the experience the more permanent will be the impression of the experience. This law of effect and its corollary have considerable significance for the advertiser in still other respects than the one we are discussing.

THE UNPLEASANT IS FORGOTTEN

When this law is applied generally it would seem at first to contradict every-day experience. Perhaps it seems to the reader that it is the unpleasant experience that leaves the indelible impression while the pleasant slips away and is forgotten. However, questionnaire studies of large and varied groups of people have shown conclusively the great predominance of pleasant over unpleasant memories. This seems to be true regardless of race, sex, or age.

Freudian psychology has its very foundation in the application of this tendency to escape from painful ideas. Freud calls the forgetting “suppression,” and assumes that the experiences that are unpleasant do not merely weaken and completely fade away, but are actively driven out of mind and into the subconscious or unconscious mind. Even here they may do all sorts of damage to the individual, who is in complete ignorance of the cause of the trouble. We need not follow Freud beyond the point of agreeing that whatever is for any reason disagreeable will tend to be forgotten, although to follow him all the way would strengthen the case against the unpleasant in advertising. It should be carefully noted that it is not merely the unpleasantness that is forgotten, but it is the *unpleasant experience* that is forgotten. More than this, it seems pretty clear that expe-

riences that are associated with the unpleasant experiences will be carried along and lost. This may be inferred from the statements just quoted from Thorndike. The association need not be a very vital one either. It may be merely an association in time, that is, two events which occur together or nearly so may be forgotten because one of them and one only is unpleasant. Even more superficial connections than this are said by Freud to be effective in causing forgetfulness.

A concrete illustration taken from Freud¹ shows his mechanism of forgetting and at the same time gives a hint of the importance of this matter in advertising work.

To oblige a woman who was a stranger in Vienna I had undertaken to procure a small iron safe for the preservation of documents and money. When I offered my services, the image of an establishment in the heart of the city where I was sure I had seen such safes floated before me with extraordinary visual vividness. To be sure, I could not recall the name of the street, but I felt certain that I would discover the store in a walk through the city, for my memory told me that I had passed it countless times. To my chagrin, I could not find this establishment with the safes, though I walked through the inner part of the city in every direction. I concluded that the only thing left to do was to search through a business directory and if that failed, to try to identify the establishment in a second round of the city. It did not, however, require so much effort; among the addresses in the directory I found one which immediately presented itself as that which had been forgotten. It was true that I had passed the show window countless times, each time, however, when I had gone to visit the M. family, who have lived a great many years in this identical building.

After this intimate friendship had turned to an absolute estrangement, I had taken care to avoid the neighborhood as well as the house, though without ever thinking of the reason for my action. In my walk through the city searching for the safe in the show window I had traversed every street in the neighborhood but the right one, and I had avoided this as if it were forbidden ground. The motive of displeasure which was at the bottom of my disorientation is thus comprehensible. . . . Here my aversion naturally does not extend to the vendor of safes, but to another

¹Freud, S., *Psychopathology of Everyday Life*, p. 140.

person, concerning whom I wish to know nothing, and later transfers itself from the latter to this incident where it brings about the forgetting.

FEELINGS AFFECT THE WHOLE PERSONALITY

When one is pleased one is "pleased all over," and when one is displeased one is "displeased all over." That is merely another way of saying that our feelings are not localizable like our sensory experiences but seem to be reflected in the whole personality. On account of this characteristic of feeling, a pleasant state, however aroused, will cast its influence over all events that occur while the feeling lasts. If it be a feeling of pleasantness we might expect it to have a beneficial influence, and if it be a feeling of unpleasantness we might expect the opposite. The reader will, doubtless, be familiar with the influence of his moods upon his accomplishments. A mood may be thought of as a feeling of long duration. When one is in a depressed mood, work seems difficult and unproductive; when in a jovial mood, things move easily and effectively.

A recent experimental study¹ lends some support to this popular view. Two groups of children were tested for their ability to learn, first when they were in a pleasant or happy mood, and second when they were in an unpleasant or sad mood.

The mood in every case was artificially created by reading to the children just before their learning periods a story either gay or sad. Twenty tests were given to a total of 125 children divided into 7 groups. The learning which was accomplished in the periods following the sad and happy moods is indicated in Table 62, together with the differences between the two for each group. The figures are in terms of the number of items learned out of a total of 10 items.

Reference to the table shows that in none of the seven cases did the learning score in a sad mood equal or exceed

¹Crawford, C. B., *The Influence of Mood on Rate of Learning*—M. A. Thesis, 1924, Columbia University.

TABLE 62
INFLUENCE OF MOOD UPON LEARNING*

Group	Sad Mood	Happy Mood	Difference
1	3.56	6.37	2.81
2	4.33	5.60	1.27
3	4.00	4.80	.80
4	4.45	5.71	1.26
5	3.48	4.80	1.32
6	4.50	6.66	2.16
7	4.81	6.21	1.40
Average Difference			1.57

*Crawford, C. B.

that in a happy mood. Expressed in terms of percentage of a perfect score, the difference between the sad and happy learning conditions is 15.7% in favor of the happy mood. Although these tests were made upon children and the tasks were relatively simple, their results may be carried over directly into the field of advertising. In fact, the pleasantness or unpleasantness created by an advertisement would be much more closely associated with the commodity advertised than the feelings aroused by the story were connected with the subsequent learning of lists of words.

Our consideration of the effect of feelings on learning and memory may be concluded with a quotation from Hollingworth,¹ which gives some indication of the significance of this law for human life in general.

In art, in pedagogy, in penal procedure, in long-deferred criminal trials, and in daily life, the principle is everywhere apparent. Even in reasoning, the gratifying confirmatory instance sticks in the mind, while the negative cases all go glimmering into oblivescence. Human nature is intrinsically idealistic, hedonistic indeed. So is all life, for that matter, and organisms are selected for survival on that basis. Reproductive imagination must so transform events that have passed that future action and effort will be stimulated rather than inhibited. The disagreeable must oblivesce if future good is to be realized, and those organisms survive in which the

¹Hollingworth, H. L., "The Oblivescence of the Disagreeable," *Journal of Philosophy*, 1910, VII, p. 709.

transfiguration most effectively takes place. The oblivescence of the disagreeable must ever remain a controlling law of conscious behavior, and its significance in the process of selection for individual and race survival could be emphasized in great detail. So long as affective tone is potent to determine the desirability of a stimulus or the appropriateness of a reaction, so long will this principle of the life of feeling remain an incentive to youth, a comforter to the senile, a guaranty of the worth of the future, and a constant exhortation to hope and renewed effort.

The application of these facts about feeling to advertising is not difficult to make. To get the maximum of attention to an advertisement and the maximum of memory of it, the advertisement should make a pleasant effect. The feelings, pleasant or unpleasant, may be too mild to register clearly in the consciousness of the reader or so as to be noticed by him, but there is every reason to believe that these feelings have their influence upon the total success or failure of the advertisement. When such a costly device as large space is employed to increase attention and memory, it will not pay to neglect the influence of these feelings which may be made to contribute toward increased attention and memory at little or no cost.

SOURCES OF PLEASANT AND UNPLEASANT FEELINGS

Having given a brief description of the feelings and shown their importance in every-day life, let us inquire into the sources of pleasantness and unpleasantness and especially those devices that are applicable to advertising. Here we will follow the classification proposed by Woodworth. "There are two different kinds of stimuli for pleasantness and two corresponding kinds for unpleasantness. The one kind is typified by sweet and bitter, the other by success and failure. Some things are pleasant (or unpleasant) without regard to any awakened desire, while other things are pleasant (or unpleasant) only because of such a desire. A sweet taste is pleasant even though we were not desiring it at the moment, and a bitter taste is

unpleasant though we had no expectation of getting it and no desire awakened to avoid it. On the other hand, the sight of our stone hitting the tree is pleasant only because we were aiming at the tree, and the sight of the stone going to one side of the tree is unpleasant just for the same reason." If any desire is aroused, then pleasure is derived from satisfying the desire and displeasure results from thwarting it. This is called by Woodworth the pleasure of success and the unpleasantness of failure. The pleasantness of the first kind is called *primary* because it is aroused directly by the stimulus, while pleasantness of the second kind is called *secondary* because it is aroused only by way of a desire.

NATURAL AND ACQUIRED FEELING-TONES

A further distinction must be made between the pleasantness which is *natural* and that which is *acquired*. Now either the primary or secondary type may be natural or either may be acquired. That is, one may acquire liking for certain color combinations, for certain combinations of tones or even for certain odors so that pleasure is derived directly from them. One may cultivate a pleasant reaction to jazz music or to the newer forms of art, or one may acquire a dislike for oysters or a certain humorous type of advertisement. The reactions are no less direct because they are learned. Likewise, people develop many forms of secondary pleasure. To cite a striking case from Woodworth: "At a football game, for example, when one of the players kicks the ball and it sails between the goal posts, half of the spectators yell with joy, while the other half groan in agony. Why should the appearance of a ball sailing between two posts be so pleasant to some, and unpleasant to others? This particular appearance is by itself neither pleasant nor unpleasant, but because the desire to see this happen has been previously aroused in the partisans of one team, and the desire that it should not happen in the partisans of the

other, therefore it is that the pleasantness or unpleasantness occurs."

In the light of our earlier discussion of native behavior and learned behavior, it might now be inferred that the natural kinds of pleasantness and unpleasantness would be more important than the acquired from the point of view of the advertiser. This we would expect for the reason that the native traits are more uniformly distributed among people, than are the learned. The native traits can be counted on to be present, while the acquired depend on the uncertainties of environment and training. This is true, although there are certain variations even in the natural likes and dislikes among people.

PLEASURE FROM SATISFYING NATURAL DESIRES

The natural pleasures of the secondary type form an interesting group. They comprise the feeling reactions which are associated with the instinctive responses. To have an instinctive tendency means to take pleasure in giving expression to that tendency. To take a simple but concrete case, if one's curiosity is aroused at the sight of a package of popcorn containing an unknown souvenir, a pleasant feeling is created by paying a dime to satisfy that curiosity. The advertiser, by the use of devices to stir up the natural desire, let us say, to show off before one's neighbors by the purchase of a certain automobile, may give the purchaser a pleasant reaction by furnishing the means for satisfying that desire. This is in part the secret of the power that lies in the appeal to the natural and deep-seated desires. There is no need here to give a list of the sources of the natural secondary pleasures, since the list of natural desires given in a previous chapter will suffice. But too much importance can scarcely be attached to this fact of the potency of the natural desires and the pleasures which come from their satisfaction. To use an instinctive appeal means that desire is aroused, that attention is guaranteed, and that

a feeling of pleasantness accompanies the reaction. The most important source of pleasurable feelings for advertising purposes is, therefore, to be found in the use of instinctive appeals.

PRIMARY PLEASURES

The natural pleasures of the primary type are not easy to identify because it is difficult to make sure that they have not been acquired in early years. Of the native character of some of them, however, we may be very sure. For example, the liking for sweets is certainly native and wide spread, likewise, the liking for bright colors, for fragrant odors, and so forth. On the other hand, the liking for numbers, for people, for machines, for music, is very likely natural but not wide spread through the population. (There are, very probably, certain specific natural likes and dislikes just as there are specific interests.) Again the liking for such things as certain fruits, vegetables, and meats is wide spread but acquired, while the liking for other things like olives, certain seasonings, cheese, and so forth, is acquired and not wide spread.

The distinction between natural and acquired is not so important for our purpose as that between wide spread and localized, since only those traits that are widely distributed can be counted upon in advertising. Our problem concerning the primary feeling reactions is then to find those reactions which may be aroused by way of advertising, to determine whether they are pleasant or unpleasant and whether they are wide spread enough to be of service. Such facts can be best determined through experimental investigations on samplings of the population. We can get, from knowledge of psychology and esthetics, some notion of the devices that might be expected to have practical feeling value. For example, various colors are known to be pleasant or unpleasant, likewise certain color combinations, shapes and proportions of objects, line forms, sounds of single letters and of words and sentences, ideas, depending

upon the nature of the associations which they arouse. Such devices as these, whether the feelings they arouse are native or acquired, will be examined in succeeding chapters with a view to their application in advertising.

METHODS OF MEASURING FEELINGS

The feelings are difficult to measure. As stated earlier, they cannot be observed and measured directly, because paying attention to them makes them disappear. Hence, they must be measured by some indirect means. Two methods have been employed in the psychological laboratory for this purpose, called the "method of expression" and the "method of impression." The first method involves the measurement of some bodily reaction which occurs concomitantly with the feeling and is said to be its manifestation. For instance, measurements have been made of the breathing, pulse, blood-pressure, and the so-called "galvanic reaction," a name given to electrical changes produced in the skin through the action of the sweat glands. For the practical purpose of measuring the feeling reactions created by advertising devices this "method of expression" is at present of little use. In the first place, the bodily responses do not seem to differ in character when the feelings differ in quality (as to pleasantness or unpleasantness) but record only intensity changes regardless of quality; and second, the measures of bodily reaction have not thus far recorded intensity changes fine enough to correspond with the slight intensity changes in the feelings.

THE "METHOD OF IMPRESSION"

The "method of impression," as the name implies, consists in recording people's impressions of things, usually in terms of preferences when two or more situations are presented simultaneously, or in terms of "likes" and "dislikes" when situations are presented one at a time. In this method

one is not asked to describe his feelings, but simply to give his reaction to something. The character of the feelings is then inferred from the nature of his reaction. Thus, if one says that he likes a certain odor, that odor is described as arousing a pleasant feeling-tone, if one says he likes one odor better than another, the former is said to produce a more pleasant feeling-tone than the latter. For properly handling such reactions, a great variety of particular methods may be employed. In fact, every one of the methods described in Chapter V may be used under certain circumstances. If one is dealing with a series of specimens of advertising, the "order of merit method" may be used, or one of the "rating scale" methods may be used in which the steps on the scale represent degrees of feeling-tone such as very pleasant, pleasant, neither pleasant nor unpleasant, unpleasant, and very unpleasant. In the reactions to odors and tones the "paired comparisons method" is usually employed, because of the likelihood of confusion when a large number of stimuli are presented at one time. Special methods must sometimes be devised to meet conditions imposed by certain kinds of material. One or more of these will be described in the following chapters. In general, however, the methods described in Chapter V will suffice for the study of feeling reactions to advertising.

XV

THE INFLUENCE OF LINE AND FORM UPON FEELING-TONE

Lines as determinants of feelings. Feelings and the lines that express them. Appropriateness of lines for expressing feelings. Uniformity in choice of lines to represent feelings. Essential characteristics of lines. Relative importance of rhythm, direction, and form. Influence of other line qualities upon the feelings. Explanation of feeling reactions. Influence of symmetry and proportion upon the feelings. Influence of associations upon preferences for lines and forms.

AMONG the factors that determine the affective value of any visual presentation (such as color, subject, balance, light, and shade) line forms have occupied an important position in the opinions of writers on "Esthetics." Their views concerning the feelings generated by lines and their explanation are given in the following quotations. Cox says:¹

Straight lines will always express rigidity and stiffness while curves will express some sort of growth or motion. The vertical line is a line of stability, of strength and vigor. . . . All these characteristics of lines may be the result of association or they may have some deeper reason, but they are there, in the lines themselves, without regard to what the lines may be used to represent, and are the most valuable means to artistic expression.

According to Puffer:²

The moment we touch upon line form, we are already, in strictness, beyond the elements. For with form enters the motor factor, which cannot be separated from the motor innervations of the whole body.

It is possible, however, to abstract for the moment, from the form as a unit, and to consider here only what may be called the quality of a line.

A line may be straight or broken, and if curved, continuously or

¹Cox, K., *Concerning Painting*, pp. 44 ff.

²Puffer, Ethel D., *Psychology of Beauty*, pp. 102, 116.

brokenly, and so forth. That this quality of a line is distinct from the form may be shown by the simple experiment of turning a spiral in different ways around its focus. The esthetic effect of the figure is absolutely different in the different positions, and yet the feeling about the character of the line itself seems to remain the same.

The very process of apprehending a line involves not only motor memories and impulses, but numberless ideal associations, and these associations constitute the line as truly as do the others. The impression of the line involves expression, a meaning which we cannot escape.

Münsterberg¹ interprets the effects of lines as follows:

Every curve or line or space division is thus psychologically a system of eye movement sensations. The optical impression, as it is at present and for itself alone, may absorb our mind; then the motor impulse to the organism will discharge itself and lead to localized tensions and movement sensations.

The result must be that the feelings of strain and impulse that go on in ourselves are not projected into our body, but into the visual impressions; just as the optical sensations were all the time joining themselves with the movement sensations of the eye muscles, so in this case optical sensations and eye muscle sensations are fusing with sensations of bodily tension, and while the muscle sensations of the eyes give the local values and distance relations to the light impressions and thus build up ideas of geometrical forms, these sensations of impulse and strain give to the optical form an element of force and energy.

We are contracting our muscles, but we feel as if the lines were pulling and piercing, bending and lifting, pressing down and pushing up; in short, as soon as the visual impression is really isolated and all other ideas really excluded, then the motor impulses do not awake actions which are actions of ourselves, but feelings of energy which are taken as energies of the visual forms and lines.

Gordon² chooses to interpret the feeling quality of lines in terms of a sort of sympathetic reaction by the individual, rather than in terms of eye movements. Concerning curved lines, she says: "The curve suggests smooth and easy movement in other parts of the body. We are able to move hand,

¹Münsterberg, H., *Principles of Art Education*, pp. 82 ff.

²Gordon, Kate, *Aesthetics*, 1909.

wrists, head, and feet, at least in serpentine lines, and to experience the greatest ease and pleasure as well as the greater economy and power of these movements. It seems fair to assume that the memory of these movements, and perhaps some actual half-conscious movements like them, may be the basis of our esthetic appreciation of the serpentine line."

Hollingworth,¹ in discussing the feeling-tone of advertisements, says:

This feeling-tone of lines can be used to advantage in representing advertised articles both by relevant and irrelevant cuts, and should also be considered in the appropriate selection of type-faces. The feeling-tone of a line depends upon three chief factors: its quality; its direction; and its character, as straight or curved.

Lundholm² reports an experimental study of the feeling value of lines. The problem is indicated in the following statement:

Literature about art very often gives us descriptions of masterpieces wherein pure lines are characterized by adjectives that indicate a more or less emotional quality. Thus authors used to write about melancholy lines in the paintings of Perugino, quiet lines in certain classical schools, violent lines in the baroque art, and so forth. Out of these facts there arises a problem. Is the affective character of a line a quality which is bound to the line itself, or is it suggested by the literary subject of the masterpiece? Furthermore, is this quality a phenomenon that appears equally to different observers?

FEELINGS AND THE LINES THAT EXPRESS THEM

Lundholm presented to a group of 8 subjects a series of 48 adjectives, which could be grouped into 13 classes, all the terms in a class being synonyms. Each subject was instructed to draw upon a sheet of white paper, 21 by 27 centimeters in size, lines which should express the affective tone of each of the adjectives. Subjects were allowed com-

¹Hollingworth, H. L., *Advertising and Selling*, p. 142.

²Lundholm, H., "The Affective Tone of Lines: Experimental Researches," *Psychological Review*, 1921, Vol. XXVIII, pp. 43-60.

TABLE 63
FEELINGS AND THE LINES THAT REPRESENT THEM*

Class of Feeling	CURVES			ANGLES			DIRECTION		
	Big	Medium	Small	Big	Medium	Small	Horizontal	Up	Down
	ABC	DEF	GHI	JKL	MNO	PQR			
1. Sad.....	82.0	10.0	5.0	.....	.....	.....	13.0	3.0	84.0
2. Quiet.....	100.0	.....	.....	.....	.....	.....	81.0	3.0	16.0
3. Lazy.....	92.0	.....	.....	.....	.....	.....	29.0	4.0	63.0
4. Merry.....	8.4	18.0	50.0	.....	.....	.....	40.0	58.0	2.0
5. Agitating.....	2.0	2.0	7.0	.....	.....	14.0	52.0	11.0	7.0
6. Furious.....	2.5	.....	2.5	.....	.....	21.0	44.0	38.0	13.0
7. Dead.....	69.0	.....	.....	6.0	6.0	.....	75.0	.....	25.0
8. Playful.....	.....	13.0	26.0	.....	.....	.....	38.0	50.0	12.0
9. Weak.....	41.0	6.0	25.0	.....	.....	.....	44.0	9.0	47.0
10. Gentle.....	75.0	6.0	13.0	.....	.....	.....	75.0	.....	25.0
11. Hard.....	.....	4.0	.....	4.0	25.0	46.0	54.0	17.0	21.0
12. Serious.....	69.0	19.0	3.0	.....	.....	.....	38.0	18.0	44.0
13. Powerful.....	25.0	38.0	4.0	4.0	21.0	4.0	37.0	50.0	13.0

*Adapted from Lundholm.

plete freedom in these reactions with this exception: They "were requested to express the adjectives as far as possible by pure line, not to symbolize sadness by the curve of a melancholy mouth or strength by a line suggesting the contour of a rock formation, and so forth."

When the lines thus produced were studied, there were found to be striking uniformities among the subjects in their reactions to the various adjectives, in the use of curves and angles, slow and fast rhythm and direction of lines. The above condensed table (Table 63), showing the reactions of the subjects to the 13 classes¹ of adjectives, is adapted from Lundholm. The names at the top of the table indicate the nature of the line, as, for example, curves: big, medium, and small; and direction: horizontal, up, and down. The letters refer to the lines in Figure 92,² where the character of the various lines is illustrated. The numbers in the

¹In the table each class is represented by only one adjective. The complete list will be given later (see page 371).

²Figure 92 is not taken from Lundholm but forms a part of the writer's experiment and will be described later.

body of the table represent, in terms of percentage, the frequency with which lines of a given type were drawn to express each of the 13 classes of feeling.

Inspection of this table reveals a high degree of agreement in most cases. For example, a big curve (like A, B, or C) expresses "sad" in 82% of the cases, "quiet" in 100% of the cases, and "lazy" in 92% of the cases. On the contrary a line with small angles expresses "hardness" in 46% of the cases. Inspection of the last three columns of Table 61 shows the importance of the direction of lines. A line moving downward (like C, F, or I) expresses "sad" in 84% of the cases, while a line moving upward (like B, E, or H) expresses "merry" in 58% of the cases.

The following passages sum up Lundholm's findings:

Lines symbolizing states of strong motor expression have short waves and acute angles, and lines symbolizing states of weak motor expression have long and low waves; and second, lines with waves of the former type and acute angles themselves suggest intense motion, while lines with waves of the latter type suggest weak and slow motion. This justifies us in supposing that the affective character of lines has its origin in the suggestion of movement of the line, that it depends upon the idea that this movement in some way imitates the motor expression of an emotion. This supposition becomes greatly strengthened by the fact that the subjects themselves have mentioned the movement as being of importance for the emotional expression of the lines.

Concerning direction of lines:

The downward tendency of a line expresses relaxation, the upward expresses power. The downward tendency expresses faintness, not sufficient strength to keep up. Going downwards expresses losing of energy. The doleful line droops without energy. If it had force it would have ascended higher. Strength is expressed by going upwards. A joyous line also ascends. Joy is an uplifting feeling. A forceful line tends upwards. Thereby it obtains the idea of ambition. A line indicating strength is a line tending upwards, never downwards.

Therefore, it seems to be obvious that even the direction of the lines to a certain extent imitates the motor expression of an emotional state and that consequently the direction is one of the fac-

tors that partakes in giving them their affective tone. Direction upwards expresses strength, energy, force, ambition, uplifting feelings, and so forth; direction downwards, weakness, lack of energy, relaxation, depression, and so forth.

In the experiment of Lundholm, then, the subjects *drew lines* which represented their feelings. The subjects were necessarily few on account of the labor of classifying and analyzing the lines drawn. Special interest was directed to an explanation of the feelings associated with lines. In the experiment¹ to be reported in the following pages the primary interest was the discovery of the feelings that are aroused in *looking at* lines of various kinds, rather than in drawing them. We were interested in the influence of lines in determining the affective reaction to a work of art, a piece of architecture, or an advertisement. If a motor reaction occurs here, it is limited to eye movements and to incipient rather than overt muscular responses of other mechanisms. The experiment will be reported in detail, as the method of obtaining the feeling reactions as well as the method of handling the data may be applied to many other related and practical problems in the field of feelings.

APPROPRIATENESS OF LINES FOR EXPRESSING FEELINGS

The material for this experiment consisted of the following:

1. A set of 18 lines, representing the simple classes of lines and their directions discovered by Lundholm in his analysis of his subjects' reactions. These were prepared in the form of white lines on a blue background (blue-prints) 8½ by 11 inches in size, arranged in the order shown in Figure 92. Each line could be identified by means of a letter printed just above it.

2. A sheet containing 47 adjectives arranged into 13 classes. These classes were the ones used by Lundholm

¹This experiment was first reported by Poffenberger, A. T. and Barrows, B. E. in the *Journal of Applied Psychology*, 1924, VIII, pp. 187 ff.

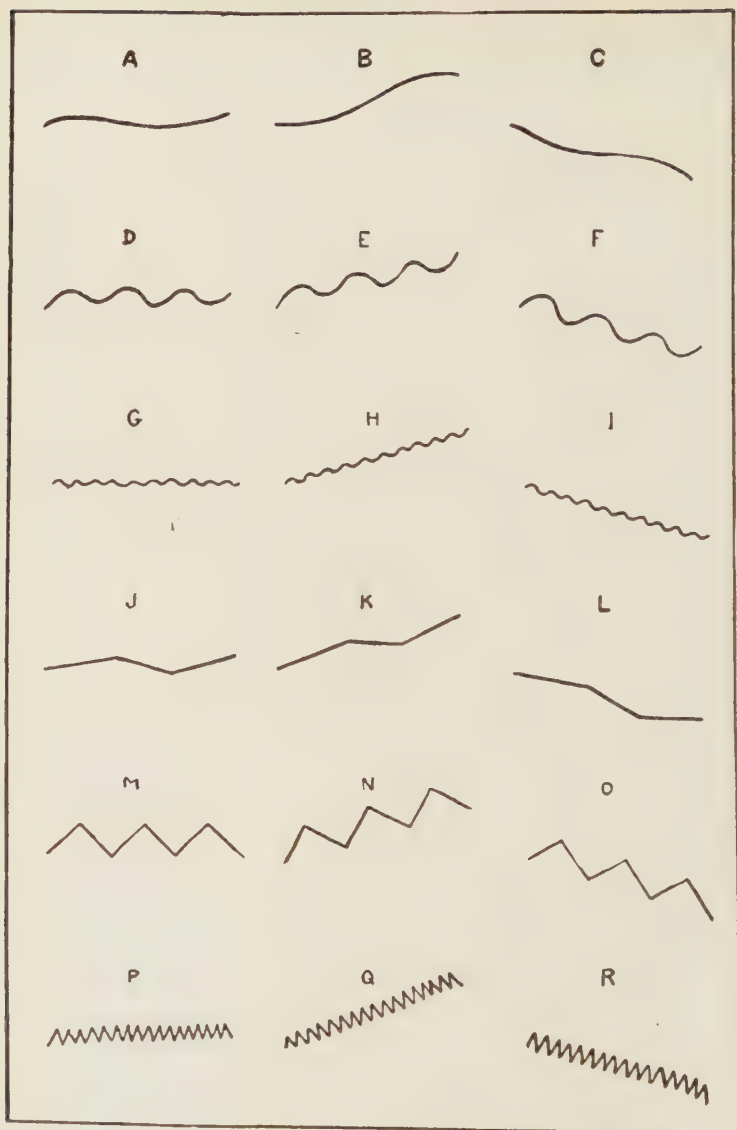


Figure 92: Lines varying in form, rhythm, and direction differ from each other in the feelings that they suggest and in their appropriateness for different purposes. (See pages 368 and 369)

except that the adjective "sprightly" was omitted from class 5, and that the adjective "harsh" was put in class 11. The first word in each class was underlined.

At the top of the sheet was a set of simple instructions. These instructions are reproduced below. The task to be performed was very simple. Each subject, with the lines before him, began with class 1 of the adjectives and sought among the 18 lines that one which best expressed the feelings indicated in class 1. The letter designating the line thus chosen was written at the left of the sheet opposite class 1. Then a line was sought for class 2, and so on until the most appropriate line was indicated for each of the 13 classes. As stated in the instructions the same line could

Below you will find 13 sets of words, each set indicating a particular feeling state or emotional state. The first word in each set will serve as a cue to the others.

On the accompanying chart you will find a series of lines, 18 in number, each designated by a letter.

Begin with class 1 of the feelings and find that line on the chart that best expresses to you the feelings that class 1 represents. Mark the letter attached to this line in front of class 1 (under "Letter"). Do the same with class 2 of the feelings, and so on until each of the 13 classes of feelings has been given a letter. You may use the same line as often as you wish.

LETTER

1. Sad, melancholy, mournful, doleful, sorrowful
2. Quiet, calm, tranquil, serene
3. Lazy, indolent, idle
4. Merry, cheerful, gay, jolly, joyous
5. Agitating, exciting, fiery, brisk, vivacious, lively
6. Furious, angry, cross, vexed, enraged
7. Dead, dull
8. Playful
9. Weak, feeble, faint, delicate
10. Gentle, mild
11. Harsh, hard, cruel
12. Serious, solemn, grave, earnest
13. Powerful, forceful, strong

TABLE 64
FEELINGS AND THE LINES THAT REPRESENT THEM*

Feeling	CURVES												ANGLES					
	Big						Small						Big			Medium		
	A			B			C			D			E			F		
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1. Sad.....	8.3	3.0	65	0.9	0.6	4.0	0.9	0.0	3.6	1.8	0.2	8.5	0.0	0.2	1.2	0.2	0.2	2.0
2. Quiet.....	75.3	4.8	3	2	5.8	0.2	7.1	0.2	0.4	0.8	0.4	0.0	0.8	0.0	0.2	0.4	0.2	0.2
3. Lazy.....	17.1	6.1	27	2	9.2	1.2	7.3	3.3	0.8	1.8	1.4	3.0	0.4	0.4	1.4	1.2	0.0	0.8
4. Merry.....	0.6	7.4	0.4	6.8	38.1	1.2	4.5	19.9	0.8	0.0	2.9	0.2	1.6	5.7	1.0	2.9	5	0.6
5. Agitating.....	0.0	0.2	0.0	0.4	4.0	1.2	1.8	9.2	0.6	0.8	3.3	0.2	8.9	22.6	2.0	11	2	4
6. Furious.....	1.1	0.4	0.6	1.8	1.8	0.8	1.2	2.2	0.8	1.4	4.8	1.4	4.0	29.2	0.4	6	9	4
7. Dead.....	13.6	0.8	19	7	2.5	0.2	1.3	10.7	0.0	4	13.8	1.0	21.4	0.8	0.0	1.5	5	2
8. Playful.....	0.2	4.0	0.6	11.1	29.1	2.3	8.7	18.8	2.2	1.4	3.2	0.4	2.4	5.9	1.0	4	5	0
9. Weak.....	7.4	2.8	18	0	1.8	1.2	9.6	12.2	1.8	14.4	1.8	14.8	0.2	0.0	1.2	1.2	0	4
10. Gentle.....	29.2	9.9	4	16.4	2.4	2.6	20.6	1.4	2.4	5.7	1.6	0.6	0.6	0.0	0.2	1.2	0	2
11. Hard.....	0.4	0.2	0.2	2.7	0.6	0.8	0.0	1.2	1.0	3.7	4.9	2.4	23.9	18.8	15	7	4	9
12. Serious.....	8.8	5.3	27	5.5	1.6	1.4	7.6	1.2	1.4	18.9	8.0	6.8	15.8	1.6	2	3	7	8
13. Powerful.....	1.8	7.6	0.0	2.5	1.2	0.0	0.2	1.6	0.4	1.8	16.0	0.6	24.6	21.1	3	3	7	0

*Poffenberger and Barrows.

be used to indicate as many feelings as the subject wished.

Five hundred subjects gave their reactions in the course of the experiment. These were originally treated separately in groups ranging in size from 8 to 60, but the differences among groups were too slight to warrant reporting. The group of 500 taken as a whole probably represents a fair sampling of educated people.

The lines chosen by the 500 subjects to represent each of the 13 classes of feelings may be seen in Table 64, on page 372. The class of feelings is indicated at the left of the table by the number and the first adjective in the class (see list at the foot of page 371). The various lines are indicated at the top of the table by the descriptive terms—curves:¹ big, medium, small; angles: big, medium, small—and also by the letters which refer to Figure 92. The numbers in the body of the table give the percentage of the subjects choosing any given line. Thus, for "sad" 8.3% of the 500 judges chose line A which is a big curve in the hori-

TABLE 65

THE INFLUENCE OF FORM, RHYTHM, AND DIRECTION

Feeling	CURVES			ANGLES			DIRECTION		
	Big	Medium	Small	Big	Medium	Small	Horizontal	Up	Down
	ABC	DEF	GHI	JKL	MNO	PQR	ADG JMP	BEH KNQ	CFI LOR
1. Sad.....	76.3	5.5	4.5	10.5	1.4	2.4	12.1	4.2	84.3
2. Quiet.....	83.3	6.2	7.7	1.2	1.0	0.8	90.2	5.8	4.2
3. Lazy.....	50.4	17.7	5.9	21.9	2.2	2.0	38.7	9.9	51.5
4. Merry.....	8.4	46.1	25.2	3.1	8.3	9.0	16.4	9.5	4.2
5. Agitating.....	0.2	5.6	11.6	4.3	33.5	45.0	23.1	68.8	8.3
6. Furious.....	2.1	4.4	4.2	7.6	39.6	42.0	16.4	62.8	20.7
7. Dead.....	34.1	4.0	14.9	36.2	2.3	7.7	46.6	2.2	50.4
8. Playful.....	4.8	42.5	28.7	5.0	9.3	9.4	28.2	65.0	6.5
9. Weak.....	28.2	12.6	28.4	25.4	1.4	3.8	31.6	8.0	60.2
10. Gentle.....	43.8	21.4	24.4	7.9	0.8	1.6	73.7	15.5	10.7
11. Hard.....	0.8	4.1	2.2	11.0	58.4	23.5	40.1	30.6	29.3
12. Serious.....	16.8	8.5	10.2	33.7	19.7	10.8	64.4	19.1	16.2
13. Powerful.....	9.4	3.7	2.2	18.4	49.0	17.7	37.9	55.5	7.0

¹In this report the curved or angular character of the line will be called its "form," the size of the waves or angles will be called "rhythm," and the direction will be referred to simply as "direction."

zontal position; 65% chose C which is a big curve in the descending position; 1.8% chose J which is a big angle in the horizontal position; and 2% chose R which is a small angle in the descending position.

UNIFORMITY IN CHOICE OF LINES TO REPRESENT FEELINGS

From this detailed table others may be compiled to show the influence of various characteristics of the lines. Thus, Table 65 combines the percentages for a given shape of line regardless of its direction and for a given direction regardless of shape. In this table it appears that "sad" is represented as a big curve by 76.3% of the subjects (the sum of A, B, and C in Table 64); as a medium curve by 5.5%; and as a small curve by 4.5%. It is represented by a descending or "downward" line in 84.3% of the subjects. The figures in Table 65 may be compared directly with those in Table 63 which contains Lundholm's data. It should be remembered that the most striking difference in the methods of obtaining these data is that Lundholm's subjects drew lines to represent feelings while our subjects chose from a set of 18 lines certain ones which represented their feelings.

In Table 66 a rough comparison is made between these two sets of data. The feeling classes are arranged, according to the amount of agreement, into three groups called "agreement," "agreement—moderate," and "disagreement." The "agreement" group may be further divided into two subgroups; namely, the first three where agreement is very close, and the second three where there is a shift of emphasis between medium and fast rhythm. The second group contains cases in which an additional type of line appears in either set of data, but in which there is no shift from curves to angles or vice versa. The third group, "disagreement," contains cases where there is a shift from curves to angles (or vice versa) or a considerable discrepancy within the curve or angle group (as in 13—powerful).

In the "disagreement" group, class 7 (dead) does not

TABLE 66
THE TWO EXPERIMENTS COMPARED

FEELING	LUNDHOLM	POFFENBERGER AND BARROWS
Agreement		
1. Sad.....	Big curves (82.0)	Big curves (76.3)
2. Quiet.....	Big curves (100.0)	Big curves (83.3)
3. Lazy.....	Big curves (92.0)	Big curves (50.4)
4. Merry.....	Small curves (50.0) Medium curves (18.0)	Medium curves (46.1) Small curves (25.2)
8. Playful.....	Small curves (26.0) Medium curves (13.0)	Medium curves (42.5) Small curves (28.7)
11. Harsh.....	Small angles (46.0) Medium angles (25.0)	Medium angles (58.4) Small angles (23.5)
Agreement—Moderate		
5. Agitating.....	Small angles (14.0)	Small angles (45.0) Medium angles (33.5)
6. Furious.....	Small angles (21.0)	Small angles (42.0) Medium angles (39.6)
10. Gentle.....	Big curves (75.0)	Big curves (43.8) Small (24.4) Medium (21.4)
Disagreement		
7. Dead.....	Big curves (69.0)	Big angles (28.4) Big curves (28.0)
9. Weak.....	Big curves (41.0) Small curves (25.0)	Small curves (28.4) Big curves (28.2) Big angles (25.4)
12. Serious.....	Big curves (69.0)	Big angles (33.7) Medium angles (19.7) Big curves (16.8)
13. Powerful.....	Big curves (25.0) Medium curves (38.0) Medium angles (21.0)	Medium angles (49.0) Big angles (18.4) Small angles (17.7)

represent any serious disagreement since the shift is from big curves to big angles; that is, it seems to be the same slow rhythm of movement that is important in expressing "sad." In the case of class 9 (weak) there are big curves and small curves in both sets of data. The additional type of line is the big angle. The other discrepancies are due, probably, to differences in interpretation of the adjectives. This is especially true in the case of "serious." Lundholm, with 8 selected subjects, could be sure of greater uniformity in interpretation than could be attained with 500 subjects who followed printed directions.

Certainly this comparison shows the agreements to be more striking than the disagreements. The question arises as to whether the disagreements that *do* occur are such as one would expect to find if they were due to the one differing factor in the experiments; namely, that in one case lines were drawn and in the other they were looked at. Lundholm speaks of two types of adjectives, those carrying "strong motor expression" and those carrying "small motor expression." In the latter group are classes 1, 2, and 3, and in the former are classes 4, 5, and 6. It is in the case of classes 1, 2, and 3 that the closest agreement is found between the two sets of data; that is, where motor expression is weak. Thus, one might conclude that the two experiments, one involving motor expression in the form of line-drawing movements and the other involving no such motor expression, agree best in the case of those feelings whose motor expression is weakest (or where the distinction between the two experiments is at its minimum). However, in the case of classes 7, 9, and 10 where there would seem to be "small motor expression" the agreement between the two experiments is not so close. Still, it must be remembered that even if the motor factor is the important factor in the feeling-tone of lines, eye movements and implicit movements of other mechanisms may be good substitutes for the actual line-drawing movements, or may even be more important than these.

The nature of the agreements and disagreements revealed by this comparison suggests that it is important to discover what characteristics of the lines, namely, form, rhythm, or direction, have the most weight in determining the feeling reactions. An attempt will be made to interpret the data in this fashion.

Let us first compare the direction factor in the two sets of data. Table 63 contains these figures for the Lundholm experiment, and Table 65 contains the same for our experiment. The comparison is presented in Table 67. As in Table 66 one can make three groupings, "agreement," "agreement—moderate," and "disagreement." The amount of agreement is determined simply by inspection, as the material does not warrant a more refined method. Here again the resemblances between the two sets of data are more striking than the differences. The same relationship between weak motor expression and agreement between the two sets of data and strong motor expression and disagreement holds as appeared in Table 66.

The remainder of the report will be concerned with an analysis of these data from the 500 subjects. The preceding comparison of the two sets of data raises two questions: (1) What are the essential characteristics of lines representing the different classes of feelings? and (2) What is the relative importance of these different characteristics? The first of these questions may be answered by reference to Table 68. Here we find in what percentage of the cases a curve was chosen to represent a class of feelings; in what percentage of the cases an angle was chosen; also what rhythm and what direction of line expressed the feeling best. The figures are obtained by totaling the percentage shown in Table 64. Thus, "sad" was represented by some kind of curve in 86.3% of the cases (Table 64, A, B, C, D, E, F, G, H, I); and by some kind of angle in 14.3% of the cases (Table 64, J, K, L, M, N, O, P, Q, R). "Sad" was also represented by a slow rhythm in 86.8% of the cases (Table 64, A, B, C, J, K, L); and by a line in the downward direc-

TABLE 67
THE INFLUENCE OF DIRECTION

FEELING	LUNDHOLM	POFFENBERGER AND BARROWS
Agreement		
1. Sad.....	Down (84.0)	Down (84.3)
2. Quiet.....	Horizontal (81.0)	Horizontal (90.2)
3. Lazy.....	Down (63.0) Horizontal (29.0)	Down (51.5) Horizontal (38.7)
4. Merry.....	Up (58.0) Horizontal (40.0)	Up (70.5) Horizontal (16.4)
8. Playful.....	Up (50.0) Horizontal (38.0)	Up (65.0) Horizontal (28.2)
9. Weak.....	Down (47.0) Horizontal (44.0)	Down (60.0) Horizontal (31.6)
10. Gentle.....	Horizontal (75.0)	Horizontal (73.7)
13. Powerful.....	Up (50.0) Horizontal (37.0)	Up (55.5) Horizontal (37.9)
Agreement—Moderate		
2. Agitating.....	Horizontal (52.0) Up (41.0)	Up (68.8) Horizontal (23.1)
7. Dead.....	Horizontal (75.0) Down (25.0)	Down (50.4) Horizontal (46.6)
Disagreement		
6. Furious.....	Horizontal (44.0) Up (38.0) Down (13.0)	Up (62.8) Down (20.7) Horizontal (16.4)
11. Harsh.....	Horizontal (54.0) Down (21.0) Up (17.0)	Horizontal (40.1) Up (30.6) Down (29.3)
12. Serious.....	Down (44.0) Horizontal (38.0) Up (18.0)	Horizontal (64.4) Up (19.1) Down (16.2)

tion in 84.3% of the cases (Table 64, C, F, I, L, O, R).

The brief statement in the last column expresses the dominant character of the line representing any of the 13 classes of feelings. Note that the cases of the slow descending curve are "sad," "lazy," and "weak"; the cases of the slow horizontal curve are "quiet" and "gentle." The medium rising curve represents "merry" and "playful." The rapid or medium rising angle represents "agitating," "furious," and "powerful."

RELATIVE IMPORTANCE OF RHYTHM, DIRECTION, AND FORM

The figures in Table 68 do not, however, enable us to answer the second question which concerns the relative importance of the various characteristics of the lines. The total percentages represent the combination of different numbers of lines, (that is, the curve includes 9 lines and the rhythm includes 6 lines). If we find the average percentage per line by dividing by the number of lines added to get a given total, we will have all the figures on a comparable basis. Then the largest figure will represent the characteristic of the line which in a given case has the greatest influence. Table 69 presents the figures reduced to such a comparable basis. The classes are grouped into pairs of opposites for easy comparison (except "lazy," "furious," and "dead," which are placed at the bottom of the table). By reading across the table and finding the largest figure, we see that in the case of "sad," direction and rhythm of line are equally important while form is less important; in the case of "merry," direction is most important while rhythm and form are less important; in the case of "harsh," rhythm and form are equally important and more so than direction; in the case of "furious," direction and form are most important and rhythm the least important; in the case of "dead," rhythm is most important, direction next, and form least important.

The same table with its groupings into contrasting feelings

TABLE 68
FEELINGS AND THEIR APPROPRIATE LINES

Feeling	FORM		RHYTHM			DIRECTION			Character of Curve	
	Curve	Angle	Slow	Medi-um	Fast	Hori-zontal	Up			Down
1. Sad.....	86.3	14.3	86.8	6.9	6.9	12.1	4.2	84.3	Slow descending curve	
2. Quiet.....	97.2	3.0	84.5	7.2	8.5	90.2	5.8	4.2	Slow horizontal curve	
3. Lazy.....	74.0	26.1	72.3	19.9	7.9	38.7	9.9	51.5	Slow descending curve	
4. Merry.....	79.7	20.4	11.5	54.4	34.2	16.4	79.5	4.2	Medium rising curve	
5. Agitating.....	17.4	82.8	4.5	39.1	56.6	23.1	68.8	8.3	Rapid rising angle	
6. Furious.....	10.7	89.2	9.7	44.0	46.2	16.4	62.8	20.7	Rapid or medium rising angle	
7. Dead.....	53.0	46.2	70.3	6.3	22.6	46.0	2.2	50.4	Slow horizontal or descending curve or angle	
8. Playful.....	76.0	23.7	9.8	51.8	38.1	28.2	65.0	6.5	Medium rising curve	
9. Weak.....	69.2	30.6	53.6	14.0	32.2	31.6	8.0	60.2	Slow descending curve	
10. Gentle.....	89.6	10.3	51.7	22.2	26.0	73.7	15.5	10.7	Slow horizontal curve	
11. Harsh.....	7.1	92.9	11.8	62.5	25.7	40.1	30.6	29.3	Medium horizontal angle	
12. Serious.....	35.5	64.2	50.5	28.2	21.0	64.4	19.1	16.2	Slow horizontal angle	
13. Powerful.....	15.3	85.1	27.8	52.7	19.9	37.9	55.5	7.0	Medium rising angle	

TABLE 69

RELATIVE IMPORTANCE OF RHYTHM, DIRECTION, AND FORM

Feeling	DIRECTION			RHYTHM			FORM	
	Horizontal	Up	Down	Slow	Medium	Fast	Curve	Angle
1. Sad.....	2.0	0.7	14.1	14.3	1.2	1.2	9.6	1.6
4. Merry.....	2.7	13.2	0.7	1.9	9.1	5.7	8.9	2.2
12. Serious.....	10.7	3.2	2.7	8.4	.7	3.5	3.9	7.1
8. Playful.....	4.7	10.8	1.1	1.6	8.6	6.4	8.4	2.6
2. Quiet.....	15.0	1.0	0.7	14.1	1.2	1.4	10.8	0.3
5. Agitating.....	3.9	11.5	1.4	0.8	6.5	9.4	1.9	9.2
10. Gentle.....	12.3	2.6	1.8	8.6	3.7	4.3	10.0	1.1
11. Harsh.....	0.7	5.1	4.9	2.0	10.4	4.3	0.8	10.3
9. Weak.....	5.3	1.3	10.0	8.9	2.3	5.4	7.7	3.4
13. Powerful.....	6.3	9.3	1.2	4.6	8.8	3.3	1.7	9.5
3. Lazy.....	6.5	1.6	8.6	12.1	3.3	1.3	8.2	2.9
6. Furious.....	2.7	10.5	3.5	1.6	7.3	7.7	1.2	10.0
7. Dead.....	7.8	0.4	8.4	11.7	1.1	3.8	5.9	5.1

shows the relationship between lines representing contrasting feelings in respect to direction, rhythm, and form. These experimental results confirm, in general, the opinion quoted at the beginning of the chapter.

INFLUENCE OF OTHER LINE QUALITIES UPON THE FEELINGS

Lines may arouse feelings by virtue of their breadth, intensity, and texture, as well as by their direction, rhythm, and form. The appropriateness for various purposes of heavy, fine, intense, or weak lines might be determined by the same experimental procedure as just outlined, although no work of that sort has been done. Still, there are rather well-established opinions concerning the effects that such line characteristics produce. Thus the rough, broad line is said to suggest ruggedness and solidity; the fine, black line is said to suggest hardness and precision; and the fine, gray line is said to suggest delicacy and refinement. The

feelings which are peculiar to certain type-faces, and which will be described in the next chapter, are doubtless due as much to the fineness, delicacy, roughness or ruggedness of their lines as to the actual form of the letters. The influence of line quality may be observed in comparing the general effect of Figure 100 and Figure 101.

EXPLANATIONS OF FEELING REACTIONS

Our experiment offers little in the way of an explanation of the feeling reactions described. A typical introspective report showed the relation between the reactions to the lines and certain popular expressions, as, for instance, "down in the dumps," "up in the air," "sharp tongue," "rollicking time." Such ideas came to mind in reacting to "sad," "merry," "playful," and so forth. Again, there was the association of the idea of the normal with a horizontal line and the departure from the normal or horizontal became indicative of "harsh," "furious," "agitating," and so forth. Such reports are of little use in determining the real basis of the feeling reactions. It may be that the reactions to the lines are due to these simple associations or that the associations themselves are due originally to the immediate responses to the lines. The predominance of certain lines for expressing certain feelings in a group of subjects of this size might suggest that the feeling reactions are immediate and fundamental responses. Another type of introspective report showed a kind of emotional warmth or glow aroused by curves, especially the larger curves, while the sharp angles gave a feeling of roughness or conflict that could not be further analyzed. For a discussion of the analysis of the feeling reactions to lines the reader is referred to the article by Lundholm.

If the feelings are to be played upon by means of lines and forms in practical life, it makes little difference whether the particular feelings aroused by a line are immediate or the result of association, except in regard to their univer-

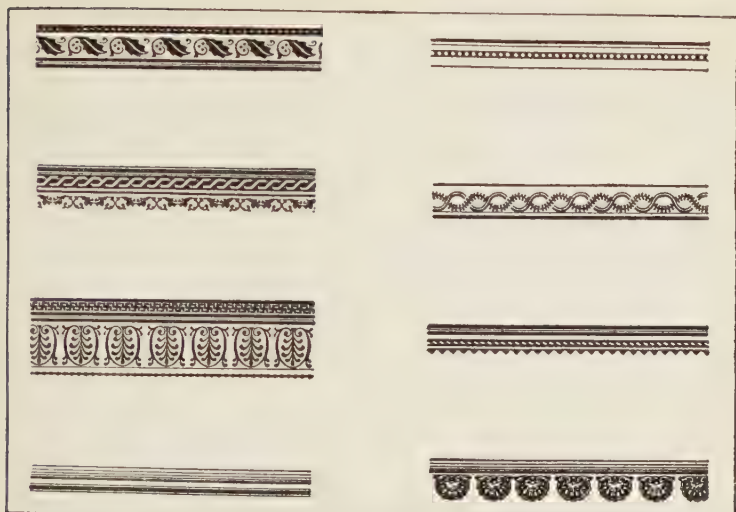


Figure 93: A series of advertisement borders that illustrate various forms and rhythms of line

salinity and their stability. These are matters that could be measured by getting a wider range of subjects and repeating the tests over a long period of time. Figure 93 shows a series of border designs that form the common stock of the advertiser and the printer. These vary strikingly in rhythm and quality. As far as the writer knows, border designs in advertising are prepared merely for their general esthetic effect and for the purpose of novelty. They might be more effectually used by taking account of the relation between quality, direction, and rhythm of line and the feelings that are aroused in seeing them.

INFLUENCE OF SYMMETRY AND PROPORTION UPON THE FEELINGS

In addition to the feeling-tone that may be generated through simple line forms such as have just been studied, there are feelings aroused through the proportion and balance of figures constructed of simple lines. The two

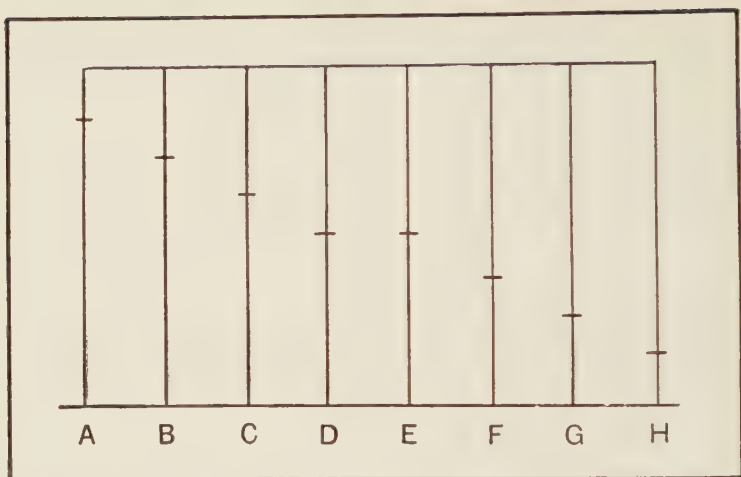


Figure 94: A figure for the demonstration of symmetry and proportion

most important characteristics of complex figures in this respect are proportion and balance or symmetry. They may be illustrated by an examination of Figure 94. Look at the figure just as it stands on the page with the vertical lines each divided at some point by a short horizontal line. Choose that line which seems the most pleasing to you; that is, which line do you prefer? A very slight preference is all that you can expect to find as none of the lines can be said to be either beautiful or ugly. Nevertheless, people generally agree in choosing line C as the most pleasing. Now turn the book upside down and examine the lines and you will probably prefer F to C. The preference is for lines which have the cross-bar above the center, and the relation of the part above to the part below is about as 3 is to 5. This relationship of the two parts of the line approximates what is known as the *golden section*, in which the shorter part is to the longer as the longer is to the whole line:

$$x:y::y:x+y$$

From this equation the relationship of the shorter to the

longer portion of the line would be 1 to 1.618+, while the lines in the figure are as 1 to 1.66.

The book should now be turned on its side and Figure 94 again examined. Choose that one of the eight lines which you prefer. When the lines are in this position, line E, which is divided into two equal parts by the short vertical line, is usually preferred. Such a division into two equal parts is known as *symmetry or balance*, as contrasted with the unequal division demonstrated above and which is called *proportion*. When horizontals are considered, symmetry is usually preferred, and when verticals are considered, pro-

portion is usually preferred. The cross illustrated in Figure 95 shows bilateral symmetry in the cross-arms and proportion in the division of the vertical by the cross-arms.

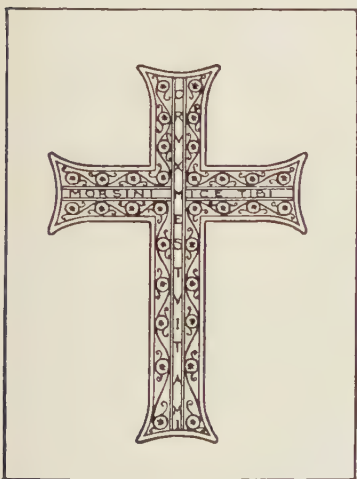


Figure 95: This object is symmetrical in the horizontal direction and proportional in the vertical direction.

The preferences just disclosed hold also for more complex figures. Thus, Witmer,¹ from whose book Figures 94 and 95 are reproduced, says: "Most persons prefer the rectangle to the square, though not a few find the square more pleasing. The four sides of the square are of the same length, whereas the vertical

magnitude of the rectangle is in the ratio of 3 to 5 with the horizontal. The square is therefore completely symmetrical, the rectangle being proportional, although not entirely without symmetry. The square is pleasing because of the equality of all its parts; the rectangle is more pleasing because it affords a greater variety of partial perceptions. Experi-

¹Witmer, L., *Analytical Psychology*, 1902, pp. 60 ff.

PIERCE ARROW



AMONG those who have viewed the special Pierce-Arrow Closed Car Salon at our showrooms this week, have been several distinguished owners of fine motor cars. The eagerness with which they await delivery of the latest Pierce-Arrow creations—which they ordered immediately—is a tribute, so we believe, to the newest achievement of the makers of Pierce-Arrow. We invite you to inspect this advance exhibit of Pierce-Arrow Closed Cars. QSaturday, the sixth, will be the last day of the showing.

HARROLD'S MOTOR CAR COMPANY, 233-239 West 54th Street, NEW YORK

Figure 96: An interesting study in symmetry and proportion (See page 388)

386

*The Most Beautiful
Pump in the
World*

Designed after the Ionic
columns of the Temple of
Winged Victory on the
Acropolis at Athens.

387

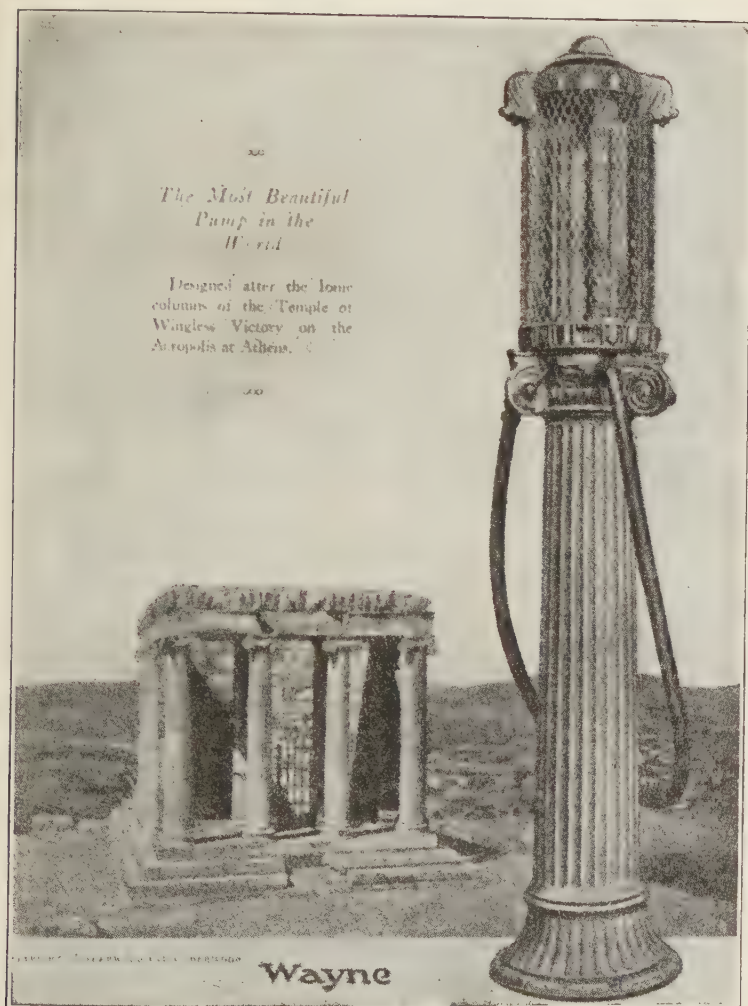


Figure 97: Application of esthetics to commercial machines (See page 388)

ments in esthetics, as well as experience with the forms of art, show that proportion between vertical and horizontal magnitude is preferred to symmetry. This esthetic demand determines to some extent the forms of books, envelopes, windows, picture frames, and many other objects of the useful and fine arts."

INFLUENCE OF ASSOCIATIONS UPON PREFERENCES FOR LINES AND FORMS

In the development of art, considerable freedom is allowed in the application of the principles of proportion and symmetry. Much depends upon the associations that are aroused. Thus, if one thinks of the vertical lines in Figure 94 as resting upon their lower ends, line C is generally preferred; but if one thinks of them as suspended from above, line F may be preferred. In the first case, preference is for the heavier portion below, and in the second for the heavier portion above. To represent stability and solidity and to prevent the feeling of top-heaviness in a composition, there should be more below the center than above it; to represent lightness and buoyancy, the larger mass may be above the center. Thus, a mass of flowers with only their slender stems below, or a mass of clouds above with only a few landscape lines below will not look top-heavy, while a pyramid in an inverted position will produce a very unpleasant effect.

Figure 96 furnishes an interesting illustration of balance and proportion in an advertisement. In Figure 97¹ there is represented an attempt to "lift" an article of every-day utility out of the competitive class by making it artistic. "It is different from other pumps in that it is a work of art and as such cannot be identified with any of the other devices of its kind." It has been found not to be impossible to make railroad stations, office buildings, and subway

¹Updegraff, R. R., "Meeting Price Competition in Industrial Marketing," *Advertising and Selling Fortnightly*, November 19, 1924.

entrances artistic and it is generally considered profitable to do so. Does the Wayne gasoline pump, in its imitation of the columns of the Acropolis at Athens, open up another new and profitable field for the application of art? Whether or not this be true, there can be no doubt that in printed advertising, where no labor or expense is spared to create a pleasing and appropriate atmosphere, line forms, if properly understood, will take their place as factors creating *favorable responses*.

XVI

THE FEELING-TONE OF TYPES AND THEIR ARRANGEMENT

Influence of type form upon feeling-tone. Uniformity of feeling reactions to type-faces. Specificity of feeling reactions to type-faces. How appropriateness of type-faces may be measured. Type-faces differ in their relative suitability for a variety of purposes. Experimental results on suitability of type-faces. Relation between abstract and concrete categories. Use of appropriate type-faces for advertisements. Influence of legibility of type upon feeling-tone. Conditions on which legibility depends. Legibility of single letters in various type-faces. Legibility of letters when grouped into words. Familiarity is a factor in legibility. Influence of space between lines. Influence of length of line. Influence of uniformity of length of line.

TYPOGRAPHY has long been believed to be a source of mildly pleasant or unpleasant feeling-tone, according to its character and appropriateness, and this belief has influenced the choice of type in advertising. In Figure 98 will be found a collection of trade names using a great variety of typography. "Speed-grits" and "Disston" seem to carry something of their significance by way of the type in which they are printed. Similarly, the jagged appearance of the trade-marks "Eversharp" or "Tempoint" suggests sharpness or pointedness. "Cashmere Bouquet" is more delicate than "Firestone." Figure 99 shows in a striking way the type-faces that are supposed to carry the atmosphere of cheapness, dignity, femininity, antiquity, nature, and elegance. In Chapter XIV the importance of creating a pleasant feeling-tone for the successful delivery of the advertising message was pointed out. In this chapter an attempt will be made to determine the factors on which the pleasant or unpleasant feeling-tone of type depends, and, if possible, to measure the appropriateness of type for different purposes.

INFLUENCE OF TYPE FORM UPON FEELING-TONE

The first question that should be raised is this: "Does the type form arouse a pleasant or unpleasant feeling reaction directly and quite independent of its arrangement into words, lines, paragraphs, and so forth? If such were found to be the case, this feeling reaction might be due to either one of two causes. There might be a feeling reaction to type that could only be described as immediate and un-analyzable. In the sense of taste, for example, bitter substances seem to be naturally unpleasant and sweet substances seem to be just as naturally pleasant. Likewise, the eye is sometimes said to prefer curves to angles—that is, to get a more pleasant feeling reaction from the former than from the latter. In an analogous fashion, it might be said that type-faces have qualities that arouse similar innate

**Sunshine
Biscuits**

TEMPPOINT

Scott's

Speed-grits

Corn Belt

EVERSHARP

**ARROW
COLLARS**

Firestone

Quaker Flour

Nashua Woolnap Blankets

CASHMERE BOUQUET

La Toilette Complète

DISSTON

Figure 98: These trade names are set in type-faces that have widely varying feeling-tone.

responses. Just as a column that is too tall for its diameter is said to give an unpleasant feeling because it appears too weak to carry its burden, or one that is too wide for its height gives an unpleasant feeling because it is poorly adapted to its task, but for the opposite reason, so a type-face that is not broad and solid would produce an unpleasant effect if used in describing building material, and so on.

The other explanation is that the feeling aroused by a certain type form might be the product of association. Through long use of a certain type for a given purpose, it has come to take on a definite appropriateness for that purpose. For example, if Old English has been used for many, many years in dignified documents like university diplomas, deeds and other important legal papers, title pages for books, and so forth, it may have acquired, through such association, an atmosphere of dignity which it would not otherwise have had. Of course, one who preferred the first explanation could readily say that Old English was chosen for these dignified documents in the first instance because it best expressed dignity. For the practical purpose of

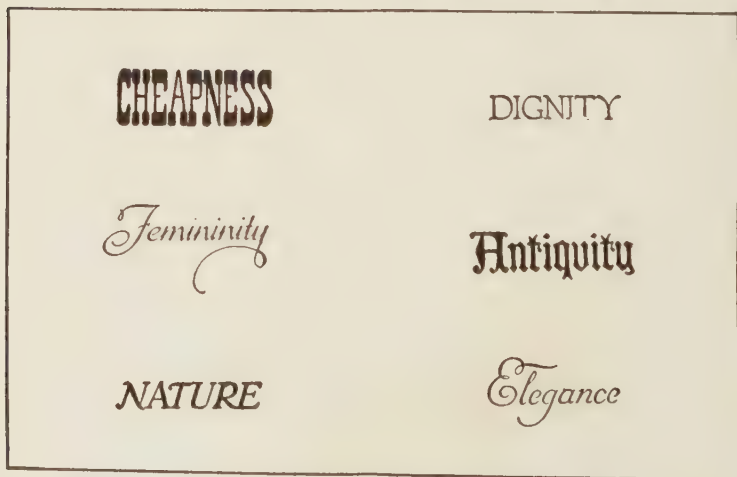


Figure 99: Six varieties of feeling-tone expressed in type forms
(See page 390)

choosing an appropriate type-face, it makes little difference which of these interpretations is chosen. If certain type-faces are found to radiate dignity, or solidity, or delicacy for any reason whatever, then when one wishes to express such ideas he may properly choose his type accordingly.

UNIFORMITY OF FEELING REACTIONS TO TYPE-FACES

The first published experimental study of the appropriateness of type-faces, known to the writer, was made by Berliner.¹ She measured, by the order of merit method, the relative suitability of 18 styles of hand-lettered type for advertising each of 4 different commodities; namely, "fish," "pork and beans," "pancake flour," and "orange marmalade." Each person taking part in the experiment was asked to arrange the 18 type-faces in an order according to the *degree of their suitability* for expressing the atmosphere of a commodity, as, for example, fish. On another occasion, he would be asked to indicate in the same way their appropriateness for each of the other three commodities. It was quite apparent from this part of the experiment that people had no trouble in deciding that a certain type-face was good or bad for a given purpose. The first questions that arose concerning these results were: "To what extent is the decision about appropriateness a purely personal and momentary matter from which no inference can be drawn concerning the reaction of people generally?" "Do the results obtained have any reliability?" To furnish at least a tentative answer to these questions, the test was conducted upon four different groups of people in different localities and the groups were compared as to their judgments of appropriateness. This comparison was readily made by means of the correlation method described in Chapter V. Each group was compared with every other group as to the order of preferences of type for each commodity. The coefficients of correlation thus obtained are

¹Berliner, A., *Zeitschrift für Angewandte Psychologie*, Band 17, 1920.

averaged separately for each commodity and are given in Table 70.

TABLE 70
UNIFORMITY OF REACTION TO TYPE-FACES*

Fish	+ .71	Pancake flour	+ .62
Pork and beans	+ .74	Orange marmalade ..	+ .50

*Berliner.

It will be recalled from our earlier discussion of coefficients of correlation that if the order of appropriateness had been identical for the different groups of people, the coefficient would have been 1.00, and if there had been only a chance relation among them, the coefficient would have been zero. The author interpreted the figures given in the table to mean that the type-faces *did* arouse a fairly uniform feeling in different groups of people, although the degree of uniformity varies somewhat with the commodity. The greatest uniformity was found in the case of "pork and beans," and the least in the case of "orange marmalade."

SPECIFICITY OF FEELING REACTIONS TO TYPE-FACES

The next question to be answered concerns the relation between the orders of appropriateness for the different commodities, or what the author called the *specificity* of the atmosphere. The orders obtained from all the individual subjects for a given commodity were averaged, and from these averages an order of appropriateness of the type-faces was obtained for each of the four commodities. The relations among these four orders give the specificity of the atmosphere. For example, if the relationship between the order for fish and that for marmalade, expressed in a coefficient of correlation, happened to be —1.00, it would mean that the type-face which was most appropriate for fish was least appropriate for marmalade, and vice versa. The coefficients actually obtained are given in Table 71.

Thus the orders for "fish" and for "orange marmalade"

TABLE 71
SPECIFICITY OF THE ATMOSPHERE OF TYPE*

Commodity	1	2	3	4
1. Fish	—			
2. Pork and beans.....	+ .75	—		
3. Pancake flour	+ .15	+ .20	—	
4. Orange marmalade	— .32	— .15	+ .31	—

*Berliner.

tended to be reversed ($-.32$), that is, the style of type that was most appropriate for the one tended to be inappropriate for the other. On the other hand, the orders of appropriateness for "fish" and for "pork and beans" resembled each other rather closely ($+.75$). The author concluded that commodities might be grouped into classes according to the character of their atmosphere and that type might then be chosen which would be appropriate for any member of the class.

An experiment performed by Poffenberger and Franken¹ differed from that of Berliner in several respects, namely:

1. Instead of hand-lettering, the material consisted of 29 of the type-faces commonly used for advertising work.
2. Appropriateness of type-faces for both abstract qualities and for actual commodities was measured.
3. The judgments of men and women were kept separate in order to show whether sex differences were present in this form of reaction.
4. In only a few cases was the same person asked to judge more than one commodity, and then only after an interval long enough to minimize the effect of the memory of previous arrangements.

HOW APPROPRIATENESS OF TYPE-FACES MAY BE MEASURED

A modified form of the order of merit method was employed in this work on account of the large number of specimens to be judged. The type-faces each mounted on a separate card were first sorted by each judge into five

¹This experiment was first reported in *The Journal of Applied Psychology*, 1923, VII, pp. 312 ff.

piles, the first pile containing the most appropriate and the last one containing the least appropriate specimens. The order of the specimens was next determined within each of the five groups. Finally, the specimens in the five groups were put together into a single order. From 40 to 50 judgments were obtained in this manner for each of the 10 categories given below:

Cheapness	Automobiles
Dignity	Building material
Economy	Coffee
Luxury	Jewelry
Strength	Perfume

On the following pages are given the samples of type-faces used in the experiment with their technical names and also the final rank¹ obtained by each specimen when judged for its appropriateness for each of the categories listed above. Each type-face is given a code letter by which it will be referred to in the following discussion. The actual name of the type-face follows this code letter, as, for example, A—Della Robbia. Position 1 indicates the most appropriate specimen, and 29 the least. As there were 29 specimens, the position of any specimen may vary from 1 to 29. The type-faces as illustrated in this report are somewhat smaller than those used in the actual experiment, having been reduced *in order to fit the printed page*.

TYPE-FACES DIFFER IN THEIR RELATIVE SUITABILITY FOR A VARIETY OF PURPOSES

An examination of the positions assigned to the specimens, when judged as to their appropriateness for the 10 different purposes, shows that their relative effectiveness varies according to the purpose for which they are to be used. Differences in the degree of variation are also to be noted. For example, specimen Y² varies only from

¹The figures represent ranks obtained from men subjects only. As will be demonstrated later, the reactions of the sexes in this study are so similar as to make presentation of both sets of figures unnecessary.

WHEN, in the course of human
A events, it becomes necessary \$1234&

A—Della Robbia

Cheapness	17	Automobiles	12
Dignity	14	Building Material	16
Economy	5	Coffee	16
Luxury	12	Jewelry	12
Strength	16	Perfume	6

WHEN, IN THE COURSE OF HU-

B man events, it becomes necessary
 for one people to dissolve \$12345&

B—Bodoni Bold

Cheapness	7	Automobiles	6
Dignity	17	Building Material	9
Economy	9	Coffee	10
Luxury	16	Jewelry	20
Strength	9	Perfume	21

WHEN, IN THE COURSE OF \$12
C human events, it becomes 34

C—John Hancock

Cheapness	2	Automobiles	8.5
Dignity	23	Building Material	3.5
Economy	14	Coffee	2
Luxury	25	Jewelry	25
Strength	3	Perfume	28

D **WHEN, IN THE COURSE OF**
 human events, it becomes \$12&

D—Roycroft Tinted

Cheapness	25	Automobiles	22
Dignity	6	Building Material	20
Economy	27	Coffee	18
Luxury	7	Jewelry	7
Strength	19	Perfume	8

WHEN, IN THE COURSE OF
E *human events, it becomes neces \$12*

E—New Caslon Italic

Cheapness	15	Automobiles	7
Dignity	12	Building Material	19
Economy	19	Coffee	19
Luxury	11	Jewelry	19
Strength	17	Perfume	10

WHEN IN THE COURSE OF HUMAN
F **EVENTS IT BECOMES NEC \$1234**

F—Blair

Cheapness	21	Automobiles	23
Dignity	7	Building Material	22
Economy	11	Coffee	22
Luxury	10	Jewelry	8
Strength	21	Perfume	11

WHEN, IN THE COURSE OF
G *human events, it becomes \$12345&*

G—Caslon Old Style No. 471

Cheapness	13.5	Automobiles	15
Dignity	13	Building Material	15
Economy	6	Coffee	11
Luxury	13	Jewelry	13
Strength	18	Perfume	14

WHEN, IN THE COURSE OF
H *human events, it becomes necessary for one*
people to dissolve the political \$1234567&

H—Caslon O. S. No. 471 Italic

Cheapness	24	Automobiles	17
Dignity	8.5	Building Material	25
Economy	24	Coffee	27
Luxury	6	Jewelry	3.5
Strength	27	Perfume	2

I WHEN, IN THE COURSE OF HUMAN events, it becomes necessary for \$123

I—New York Gothic

Cheapness	13.5	Automobiles	20
Dignity	15	Building Material	8
Economy	4	Coffee	14
Luxury	17	Jewelry	22
Strength	8	Perfume	22

J WHEN, in the course of human events, it be- comes necessary for one people to dissolve the political bands which have con \$123456&

J—Century Old Style

Cheapness	11	Automobiles	24
Dignity	22	Building Material	25
Economy	2	Coffee	18
Luxury	18	Jewelry	21
Strength	24	Perfume	15

K When, in the course of human \$1

K—Old English

Cheapness	22	Automobiles	25
Dignity	4	Building Material	23
Economy	28	Coffee	23
Luxury	4	Jewelry	11
Strength	15	Perfume	16

L WHEN, IN THE COURSE OF human events, it becomes \$12345&

L—Goudy Old Style

Cheapness	16	Automobiles	16
Dignity	11	Building Material	17
Economy	8	Coffee	17
Luxury	15	Jewelry	10
Strength	20	Perfume	9

**WHEN, in the course of human
M events, it becomes necessary for
one people to dissolve \$1234567&**

M—Scotch Roman

Cheapness	19	Automobiles	13
Dignity	19	Building Material	13
Economy	3	Coffee	12
Luxury	20	Jewelry	16
Strength	14	Perfume	17

**N WHEN, IN THE COURSE OF HUMAN EVENTS, IT BECOMES
N necessary for one people to dissolve the political bands which have \$1234'**

N—Circular Gothic No. 44

Cheapness	20	Automobiles	28
Dignity	10	Building Material	26
Economy	16	Coffee	28
Luxury	8	Jewelry	5
Strength	26	Perfume	3

**WHEN, IN THE COURSE
o of human events, it becomes
necessary for one \$1234&**

O—Antique Bold

Cheapness	1	Automobiles	3
Dignity	27	Building Material	1
Economy	18	Coffee	3
Luxury	26	Jewelry	28
Strength	2	Perfume	25

**WHEN, IN THE COURSE
P of human events, it \$123&**

P—Masterman

Cheapness	5	Automobiles	2
Dignity	26	Building Material	2
Economy	20	Coffee	6
Luxury	23	Jewelry	26
Strength	4	Perfume	24

When in the Course of Human Events, it becomes necessary for one people to dissolve the political bands which have connected them with another, and to assume, among the powers of the earth, the separate and equal station to which \$1234567890&.

Q—Typo Slope

Cheapness	28	Automobiles	29
Dignity	5	Building Material	29
Economy	26	Coffee	29
Luxury	3	Jewelry	2
Strength	29	Perfume	1

WHEN, IN THE COURSE
R of human events, it \$123&

R—Century Bold

Cheapness	6	Automobiles	1
Dignity	29	Building Material	3.5
Economy	21	Coffee	7
Luxury	27	Jewelry	24
Strength	5	Perfume	23

WHEN, in the course of human
s events, it becomes necessary
for one people to dis- \$12345&

S—Post Monotone

Cheapness	12	Automobiles	11
Dignity	16	Building Material	11
Economy	7	Coffee	9
Luxury	21	Jewelry	18
Strength	10	Perfume	18

WHEN, IN THE COURSE
T of human events, it \$123456&

T—Caslon Old Style

Cheapness	9	Automobiles	5
Dignity	18	Building Material	12
Economy	10	Coffee	8
Luxury	19	Jewelry	17
Strength	11	Perfume	20

U WHEN, IN THE COURSE OF \$12

U—Cheltenham Bold Outline

Cheapness	26	Automobiles	21
Dignity	8.5	Building Material	21
Economy	23	Coffee	20
Luxury	9	Jewelry	6
Strength	23	Perfume	7

V When, in the Course of Human Events,

V—Tiffany Text

Cheapness	29	Automobiles	18
Dignity	2	Building Material	28
Economy	25	Coffee	26
Luxury	1	Jewelry	3.5
Strength	28	Perfume	5

W WHEN, in the course of human events, it becomes \$1234

W—Bookman Old Style

Cheapness	10	Automobiles	10
Dignity	24	Building Material	10
Economy	1	Coffee	13
Luxury	22	Jewelry	21
Strength	12	Perfume	19

X WHEN, IN THE COURSE OF human events, it becomes \$1234&

X—Cheltenham Bold

Cheapness	8	Automobiles	4
Dignity	21	Building Material	6
Economy	12	Coffee	5
Luxury	24	Jewelry	23
Strength	7	Perfume	26

Y WHEN, IN THE COURSE OF H events, it becomes nec \$1234

Y—Globe Gothic Bold

Cheapness	3	Automobiles	14
Dignity	28	Building Material	5
Economy	17	Coffee	1
Luxury	29	Jewelry	29
Strength	1	Perfume	29

Z WHEN, IN THE COURSE OF HUMAN EVENTS

Z—Engraver's Roman

Cheapness	27	Automobiles	27
Dignity	3	Building Material	27
Economy	22	Coffee	24
Luxury	2	Jewelry	1
Strength	25	Perfume	4

X¹ WHEN, IN THE COURE OF HU events, it becomes necessary \$12

X¹—Roycroft

Cheapness	4	Automobiles	8.5
Dignity	25	Building Material	7
Economy	15	Coffee	4
Luxury	28	Jewelry	27
Strength	6	Perfume	27

Y¹ WHEN, IN THE COURSE OF HU- man events, it becomes \$123456&

Y¹—Bulfinch

Cheapness	18	Automobiles	19
Dignity	20	Building Material	14
Economy	13	Coffee	15
Luxury	14	Jewelry	14
Strength	14	Perfume	15

Z¹ When, in the Course of Human \$123

Z ¹ —Priory Text			
Cheapness	23	Automobiles	26
Dignity	1	Building Material	24
Economy	29	Coffee	25
Luxury	5	Jewelry	9
Strength	22	Perfume	13

position 13 to position 20 in the 10 categories, while Z¹ varies all the way from 1 to 29. The former type specimen would serve moderately well for any purpose, while the latter is either very appropriate or very inappropriate. The same may be said of specimen Z. The range and distribution of the positions assigned to the type specimens may be observed readily from Table 72. The positions from 1 to 29 are arranged in 6 groups, indicated across the top of the table. The figures in the body of the table indicate the number of times that a given specimen fell in a certain group regardless of the commodity for which it was judged. Since there were 10 categories for which the type were judged, the positions for each type-face will total 10. Reading from this table we find that specimen A was twice given a position within the 5-9 group, and four times within the 10-14 group. Specimen Q, on the other hand, which is a kind of fine script, appeared in the best group three times and in the poorest group six times. That is, this type was either very well suited to a given purpose or else very poorly suited. On the whole, it was more common for the type to be very appropriate for some purposes and very inappropriate for others than to be moderately good for all purposes. More detailed information concerning range and distribution of the type-faces may be obtained from the figures given under each specimen. A good impression may be obtained from them concerning the suitability of any particular type specimen for different purposes. The more condensed tables of results are serviceable in showing merely general tendencies and relationships.

EXPERIMENTAL RESULTS ON SUITABILITY OF TYPE-FACES

The relation among the orders for the different categories may be expressed in terms of coefficients of correlation, the higher the positive correlation the greater the similarity among the orders for the different categories. These coefficients, obtained by the "rank difference method," are given in Table 73 for the men, and Table 74 for the women.

In interpreting these figures it should be remembered that the groups of persons judging were not the same for any two categories and that rarely was the same judge used twice. Thus, the high negative correlation between

TABLE 72

RANGE OF POSITIONS ASSIGNED TO EACH SPECIMEN*

Type	1-4	5-9	10-14	15-19	20-24	25-29
A	.....	2	4	4	.....	.....
B	.....	5	1	2	2	.....
C	4	1	1	.....	1	3
D	.....	4	.....	2	2	2
E	.....	1	3	6	.....	.....
F	.....	2	3	.....	5	.....
G	.....	1	8	1	.....	.....
H	2	2	.....	1	2	3
I	1	2	2	2	3	.....
J	1	.....	1	3	4	1
K	2	.....	1	2	3	2
L	.....	2	2	5	1	.....
M	1	.....	4	4	1	.....
N	1	2	1	1	1	4
O	5	.....	.....	1	.....	4
P	3	2	.....	.....	3	2
Q	3	1	.....	.....	.....	6
R	2	3	.....	.....	3	2
S	.....	2	4	3	1	.....
T	.....	3	3	3	1	.....
U	.....	4	.....	.....	5	1
V	3	1	.....	1	.....	5
W	1	.....	5	1	3	.....
X	1	4	1	.....	3	1
Y	3	1	1	1	.....	4
Z	4	.....	.....	.....	2	4
X ¹	2	3	.....	1	.....	4
Y ¹	.....	.....	5	4	1	.....
Z ¹	1	2	1	.....	3	3

*Adapted from Poffenberger and Franken.

TABLE 73
SPECIFICITY OF THE ATMOSPHERE OF TYPE FOR MEN*

		1	2	3	4	5	6	7	8	9	10
Cheapness.....	1	—	— .84	+ .47	— .94	+ .82	+ .78	+ .93	+ .90	— .94	— .88
Dignity.....	2	—	—	— .73	+ .96	— .89	— .76	— .91	— .85	+ .80	+ .80
Economy.....	3	—	—	—	— .48	+ .31	+ .28	+ .40	+ .38	— .38	— .29
Luxury.....	4	—	—	—	—	— .96	— .79	— .94	— .92	+ .93	+ .88
Strength.....	5	—	—	—	—	—	+ .73	+ .93	+ .91	— 1.00	— 1.00
Automobiles.....	6	—	—	—	—	—	—	+ .82	+ .81	— .74	— .64
Building material.....	7	—	—	—	—	—	—	—	+ .90	— .95	— .92
Coffee.....	8	—	—	—	—	—	—	—	—	— .91	— .96
Jewelry.....	9	—	—	—	—	—	—	—	—	—	+ .94
Perfume.....	10	—	—	—	—	—	—	—	—	—	—

*Poffenberger and Franken.

the orders for "cheapness" and "dignity" ($-.84$) or between "cheapness" and "luxury" ($-.94$) represents a real difference in effectiveness and not merely a tendency on the part of the judges to be logical in placing a given specimen high for one quality and low for some contrasting quality. The coefficients for "cheapness" and "economy" ($+.47$) and for "dignity" and "luxury" ($+.96$) are high and positive. "Strength" correlates positively with "cheapness" ($+.82$) and with "economy" ($+.31$) while it correlates negatively with "luxury" ($-.96$) and with "dignity" ($-.89$). Plain heavy type, while indicating strength, also suggests cheapness and economy as compared with the more delicate and ornate type forms.

A coefficient of correlation of $+.94$ between the orders for "jewelry" and "perfume" indicates that the type-faces that are most appropriate for the one are also most appropriate for the other. These two commodities correlate with the order for "building material" $-.95$ and $-.92$ respectively, showing that the type-faces most effective for articles of personal adornment are the least effective for the more utilitarian purposes. The order for "coffee," while quite similar to that for "building material" ($+.90$) and for "automobiles" ($+.81$), is quite different from that for "jewelry" ($-.91$) and perfume ($-.96$).

RELATION BETWEEN ABSTRACT AND CONCRETE CATEGORIES

Interesting comparisons may be made between the abstract group ("dignity," "economy," and so forth) and the commodity group ("automobiles," "building material," and so forth.) "Cheapness" correlates positively and high with "coffee" ($+.90$) and negatively and high with "jewelry" ($-.94$) and "perfume" ($-.88$). "Dignity" correlates high and positively with "jewelry" ($+.89$) and with "perfume" ($+.80$). The orders for "economy" and "automobiles" show a correlation of $+.28$, "economy" and "building material" $+.40$, and "economy" and "coffee" $+.38$. There

TABLE 74

[illegible]

*Poffenberger and Franken.

is a negative relationship between the orders for "economy and jewelry" ($-.38$) and "economy and perfume" ($-.29$). The coefficients in which "economy" is concerned are the lowest to be found in the table. This may be due to the fact that the meaning of "economy" was not as definite and uniform among the judges as the meanings of the other abstract terms. For instance, it might mean merely "cheapness" to some, and "a good purchase" to others. Such differences in interpretation would tend to lower the correlations in which the order for economy was concerned. "Luxury" correlates high and positively with "jewelry" ($+.93$) and "perfume" ($+.88$) and negatively with the other commodities. "Strength" correlates high and positively with "automobiles" ($+.73$), "building material" ($+.93$) and "coffee" ($+.91$), but negatively and high with "jewelry" (-1.00) and "perfume" (-1.00).

TABLE 75
CORRELATION BETWEEN MEN AND WOMEN FOR
DIFFERENT CATEGORIES

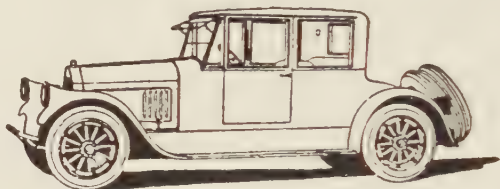
Cheapness	$+.91$	Automobiles	$+.81$
Dignity	$+.92$	Building material	$+.97$
Economy	$+.93$	Coffee	$+.79$
Luxury	$+.93$	Jewelry	$+.94$
Strength	$+.94$	Perfume	$+.95$

No differences worth noting appear between the records for men and women (Tables 73 and 74). Table 75, showing the relationship between the orders for men and women, contains no coefficient lower than $+.79$. This similarity of the reactions in the two sexes gives additional evidence of the consistency of the judgments of appropriateness for material of this sort.

USE OF APPROPRIATE TYPE-FACES FOR ADVERTISEMENTS

The results of this experiment show quite conclusively that differing type-faces do vary in appropriateness and that judges are able to "feel" this appropriateness or lack of

The only way to really know



Pierce-Arrow

Said a demonstrator connected with the factory: "If I can get a prospect in this car and run him around a bit, I can sell him."

That is the present state of mind of every man who has had anything to do with the making of Pierce-Arrow. He is sure the car will sell itself.

The feeling the car gives the man who rides in it the first time is unmistakable. Driving would be better than riding, but even the passenger gets that sense of ample power, of ease and responsiveness and elasticity the Dual-

Valve engine makes possible.

The Dual-Valve is not new, but the three years since it was new have been judiciously used. It is better. The car that depends upon it is better. The body designs reflect the qualities the engine gives the car and they are full of convenience and comforts.

Only a personal inspection can show you what these things are and what they mean to you.

Pierce-Arrow Sales Co.
Buffalo

Figure 100: A style that suggests luxurious travel

appropriateness. Furthermore, there is close agreement between sexes and among members of the same sex in the character of their reactions to the different type specimens. Figures 100 and 101, reproduced from Sherbow,¹ show the difference in feeling that may be created through choice of type. The first conveys "the idea of luxurious travel" and the second "suggests power and strength for heavy trucking."

Figure 102 shows a few of the different type-faces that were used in one issue of a daily newspaper to advertise women's clothing. They differ from one another in style and probably also in appropriateness. Still, they may carry just the character that best suited the particular type of garment advertised.

The experiment produces no measure of the strength of these "feelings." Certainly, the pleasantness or unpleasantness of the effects produced by these different type-faces must be extremely mild, and it might be argued that such differences as do exist are too slight to warrant consideration for practical purposes. However, the appropriateness of type is one factor among the many which determine the appropriateness of the advertisement as a whole and therefore cannot be safely neglected.

One further point should be noted, namely, that the effectiveness of type-faces, such as we have used in this work, cannot necessarily be predicted from the judgment of one individual, even though he may be an expert in typography. Only a test upon an adequate sampling of the population to be influenced will definitely determine what is the best type to use. The judgment of one individual may be safe where the more extreme forms of hand-lettering are under consideration, although even here some further check would be advisable. The effect upon a sampling of prospects must here, as in other cases of control of human behavior, be the final measure of what will or will not be effective.

¹Sherbow, B., *Effective Type-Use for Advertising*, 1922, pp. 24-25.



Speed and hill climbing

The present Pierce-Arrows travel from point to point 15% faster than before. Their hill-climbing ability—pulling out of holes or through sand—is 25% greater because of the Dual Valve Engines in them.

Governed to an indicated speed, their greater power permits them to maintain their pace, so they make more trips and cover a wider radius each working day

Pierce Arrow



CHASSIS PRICES

2-ton \$3750

3-ton 4950

5-ton 5700

All Prices F.O.B. Buffalo

THE PIERCE ARROW MOTOR CAR COMPANY, BUFFALO N. Y.

Figure 101: A style that suggests power and strength for heavy trucking
(See page 411)

INFLUENCE OF LEGIBILITY OF TYPE UPON FEELING-TONE

A second question that should be asked is: "Does the *legibility* of type influence the feeling-tone aroused; and if so, what is the legibility of the various type-faces?" The characteristics of the feelings, discussed in an earlier chapter, make it clear that any type-face which is difficult to read and requires eye-strain for clear seeing will cause a general tone of unpleasantness. Feelings are not definitely localized in the part of the body where they originate as sensations are, but produce a diffuse and pervading reaction. Hence any unpleasantness produced by eye-strain from low degree of legibility will be reflected in a general feeling attitude of discomfort and unpleasantness, which will become associated with the experiences of the moment.

CONDITIONS ON WHICH LEGIBILITY DEPENDS

The legibility of any specimen of type depends upon well-known facts of visual acuity. Under ordinary circumstances of illumination, and so forth, two objects, such as lines, to be distinguished as two must satisfy certain conditions, namely, the lines must have a certain minimal thickness and must be a certain minimal distance apart. Thus, in the Snellen Test Chart, which is used for testing eyesight, any letter which can be read by the normal eye at the distance specified just satisfies these minimal requirements as to the width of the lines comprising the letter and the width of white space intervening between these lines. These dimensions would have to be increased for type more complex in form than those simple ones used in the test charts. Figure 103 shows the proportions of the test type. If the lines were thicker and the white space narrower, the letter at the normal distance of 20 meters would fuse into a black spot; if the lines were thinner and the white space wider, the letter would tend to disappear into the white background.

FUR COAT

Fur Coat

FUR JACQUETTES

Sport Furs

WINTER COATS

CLOTHES

COATS, SUITS

FURS

Coat Tailleur

Figure 102: A few type-faces that were used in one issue of a daily newspaper to advertise women's clothing (See page 411)

TABLE 76
LEGIBILITY OF DIFFERENT LETTERS*

Letter	ISOLATED LETTERS (Average of Sixteen Faces)				GROUPED LETTERS (Average of Nine Faces)	
	Upper Case	Order	Lower Case	Order	Lower Case	Order
Average	252.8	.....	213.8	.....	156.0	.....
W	300.2	1	261.6	2	189.0	2
M	293.8	2	296.8	1	151.0	13.5
L	291.1	3	254.3	3.5	147.0	16.5
J	297.5	4	239.4	5	167.0	6
I	280.4	5	236.3	6	155.0	10.5
A	272.4	6	177.0	23	141.0	22
T	268.9	7	199.6	17	147.0	16.5
C	265.1	8	193.8	19	141.0	22
V	263.5	9	213.1	15	152.0	12
Q	261.7	10	226.4	9	168.0	5
P	257.9	11	236.1	7	186.0	3
D	254.3	12	254.3	3.5	143.0	19.5
O	254.0	13	190.1	21	143.0	19.5
Y	252.1	14	224.6	10	162.0	8.5
U	251.3	15	193.1	20	144.0	18
F	241.6	16	233.0	8	165.0	7
H	240.5	17	222.7	11	162.0	8.5
X	239.8	18	181.7	22	151.0	13.5
G	237.6	19	220.6	12	203.0	1
N	235.5	20	195.7	18	141.0	22
Z	233.8	21	171.6	25	140.0	24.5
K	231.7	22	216.9	14	176.0	4
E	233.9	23	173.5	24	132.0	26
R	214.0	24	203.6	16	150.0	15
B	208.9	25	217.8	13	155.0	10.5
S	205.7	26	152.6	26	140.0	24.5

*Roethlein

LEGIBILITY OF SINGLE LETTERS IN VARIOUS TYPE-FACES

Roethlein¹ measured the relative legibility of 16 faces of printing type in terms of the maximal distance in centimeters at which they could be read correctly. Figure 104, reproduced from this report, shows the different type-faces studied and the reading distance for each in capitals and lower-case letters, when the letters were presented one at a time. Considerable differences appear among the type-faces represented, the total range for capitals being 84.9 centimeters, and

¹Roethlein, B., *American Journal of Psychology*, 1912, XXIII, pp. 1 ff.

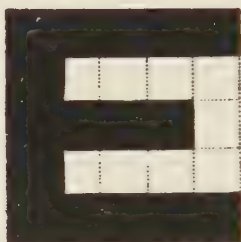


Figure 103: A standard visual test letter that can be read by the normal eye at 20 meters (See page 413)

for lower case being 50.8 centimeters. When the letters are seen one at a time as here, the capitals have a much greater legibility than the small letters, although all capitals are not better than all small letters. The differences in legibility among the various letters of the alphabet may be seen in Table 76, in which the first column of figures gives the legibility distance for capitals and the second column gives their order of legibility; the third column gives the legibility distance for small letters, and the fourth column gives their order. In this table the values for the 16 type-faces for each letter are averaged. (The last two columns in the table will be referred to later.) The averages for all the letters are given at the top of each column and show that the lower case are harder to read than the upper case. The letter S is the least legible letter in either capitals or small letters.

An examination of the letter forms which have good and poor legibility reveals the fact that *the form of the letter makes relatively little difference*, and that *the really important factors are size of the letter and heaviness or blackness of the lines* of which the letters are composed.

Table 77 gives the distance values for one type-face, Cheltenham, in various modifications.

TABLE 77

INFLUENCE OF VARIOUS MODIFICATIONS OF A SINGLE FACE*

Cheltenham	Average	Cheltenham	Average
Ordinary	206.4	Bold Condensed	205.9
Bold	233.4	Wide	224.3
		Italic	203.8

*Roethlein.

The bold form has the greatest legibility and the wide form stands next. The poorest legibility is found in the italic form where the letters are narrow and the lines are thin. The range of legibility within one type-face is, therefore, 29.6 centimeters as compared with the range of 84.9 among all the type-faces for capitals and 50.8 for small letters.

LEGIBILITY OF LETTERS WHEN GROUPED INTO WORDS

When the letters are grouped into nonsense words, that is, words having no meaning, quite different facts appear as may be seen in comparing the last two columns of Table 76 with the first four columns. In the last two columns are the legibility values for the different letters when appearing in groups. A comparison of the averages at the tops of the columns indicates that the legibility becomes much less when the letters appear in groups—for the lower case there is a difference between the averages of 57.8 centimeters. The individual letters differ, too, in their relative legibility with the two methods of presentation. More important perhaps is the reduction in the range of difference between the best and poorest letters when they are presented in groups (71 centimeters) as compared with their range when presented singly (144.2 centimeters). That is, the legibility differences of the letters are much less significant when the letters are combined into words.

UPPER CASE		Lower Case	
<i>The Sixteen Roman Faces</i>			
JENSON	281.7	News Gothic	236.4
BULFINCH	273.8	Bulfinch	233.6
CHELT. W.	268.5	Clearface	229.5
CENTURY O. S.	270.4	Century O. S.	228.0
CLEARFACE	269.3	Century Exp.	226.7
CHELT. O. S.	268.5	Chelt. W.	224.3
DELLA ROBBIA	266.8	Jenson	214.7
NEWS GOTHIC	264.6	Della Robbia	214.2
CENTURY EXP.	264.8	Cushing O. S.	212.6
CASLON O. S.	250.7	Ronaldson	209.2
CUSHING O. S.	247.6	Chelt. O. S.	206.4
DE VINNE NO. 2	243.2	De Vinne No. 2	204.8
RONALDSON	241.7	American Typewr.	201.7
CUSHING MON.	228.4	Caslon O. S.	201.7
CUSHING NO. 2	224.8	Cushing Mon.	190.6
AMERICAN TYPEWR.	196.8	Cushing No. 2	185.6
Average	252.8	Average	213.7
<i>Bold Faces</i>			
CENT. O. S. BOLD	296.0	Cent. O. S. Bold	255.1
CHELT. O. S. BOLD	286.2	Chelt. O. S. Bold	233.4
CLEARFACE BOLD	273.7	Clearface Bold	230.5
Average (Bold)	285.3	Average (Bold)	239.7
<i>Italic Faces</i>			
CLEAR. ITALIC	274.3	Clear. Italic	231.2
CHELT. ITALIC	259.6	Chelt. Italic	203.8
DE VINNE ITALIC	235.5	De Vinne Italic	201.9
Average (Italic)	256.5	Average (Italic)	212.3
Average (of same faces, Roman)	260.3	Average (of same faces, Roman)	213.6
<i>Bold Italic Face</i>			
CLEAR. B. ITALIC	265.4	Clearface B. Italic	213.2
<i>Extra Bold Faces</i>			
BOLD ANT.	307.4	Bold Antique	260.5
FRANK. GOTHIC	284.8	Franklin Gothic	245.2

Figure 104: Legibility of different type-faces expressed in distance, in centimeters, at which they can be read (See page 415)

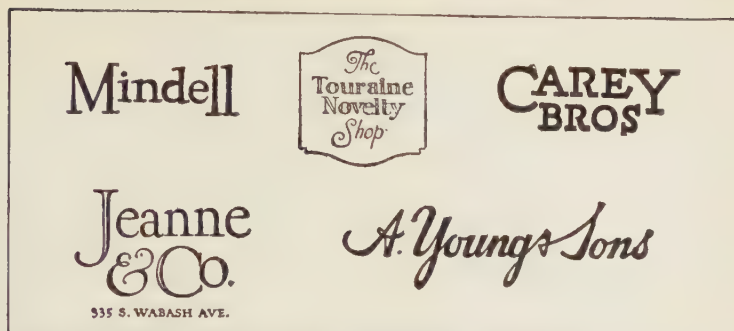


Figure 105: Hand-lettered trade names that are relatively easy to read
(See page 420)

Table 78 shows the legibility for the different type-faces, (lower case only) when the letters are presented in groups. We find here, too, that the range of difference is very slight, compared with that found in Figure 104.

In grouped letters the important factor seems to be amount of white space surrounding the letter—the greater the amount, the greater is the legibility. This means, simply, that the more white space there is around a letter in the midst of a group of letters, the more nearly does the letter stand alone, and approximate the value for isolated letters.

In all the tests here reported, except capital letters seen singly, News Gothic was the most legible. Hence for freedom from eye-strain, and consequent comfort in reading, this should be the preferred type. The introduction of

TABLE 78

LEGIBILITY OF DIFFERENT TYPE-FACES WHEN LETTERS ARE GROUPED*

Type-Faces	Average	Type-Faces	Average
Bullfinch	150	Cushing Monotone	144
Caslon	149	Cushing Old Style	163
Century Expanded	159	News Gothic	166
Century Old Style	162	Scotch Roman	151
Cheltenham Wide	159		

*Roethlein.



Figure 106: Hand-lettered trade names that are relatively difficult to read. Modifications from this form for esthetic effect should not be at too great cost in loss of legibility.

Hand lettering is very often defective in respect to legibility because of the letter form. In such cases legibility is sacrificed for novelty and uniqueness. Figures 105 and 106 contain illustrations of varying legibility. Figure 107 is a striking case of illegible type-face.

FAMILIARITY IS A FACTOR IN LEGIBILITY

The three factors just mentioned—namely, size of the letter, width of lines, and white space surrounding the letter—are the vital ones in the reading of sense material, although other factors must be added. For instance, there is the familiarity with the appearance of the word in a certain type. Certain clues are established in the identification of words that may be lost when the type-face is changed. Thus, every one is more accustomed to reading lower-case than upper-case type, and for that very reason, if for no other, can read the former more readily (see

Figure 108). The clues to words seem more easily established in lower case, too, because of the letters which project above and below the line, such as t, l, g, y, and the like. If a printed line of sense material be split longitudinally, it is found that the upper half can be read more easily than the lower half (see Figure 109). That is, the upper halves of letters furnish better clues to words than the lower halves. Words printed in capitals present an unbroken line above and below.

Although there are no figures to show the relative legibility of upper-case and lower-case letters appearing in groups, these two factors of habit and the value of clues to words make lower-case type more pleasant reading than upper-case.

INFLUENCE OF SPACE BETWEEN LINES

For legibility and comfort in reading, the spacing of the lines is important. If the lines are too close together and especially if they are at the same time rather long, the eye is likely to slip from one line to the other. Such errors of adjustment may be readily understood if the irregular character of eye movements is kept in mind.

The influence of the distance between lines of printed matter was determined in a study¹ of the New York Telephone Company Directory of subscribers. On the four-column page it was found that the insertion of a one-point lead ($1/72$ of an inch) made an improvement in legibility equal to about 13%. Legibility was determined by measuring the average time required to find the correct telephone number when the name of the subscriber was seen or heard. The large group of subjects from whom these records were obtained included a group of laborers who would represent only very infrequent users of a telephone directory. If the records of this group are eliminated, the average saving in time for all the remaining persons is about 18%. By the

¹Baird, J. W., "The Legibility of a Telephone Directory," *Journal of Applied Psychology*, 1917, Vol. I, pp. 30 ff.



Figure 107: An advertisement whose layout and typography make it extremely difficult to read
(See page 420)

In selecting this Vocalion you may feel confident that you are securing a phonograph of highest quality; unequalled in tone; distinctive in appearance, and richer in special features than any other phonograph on the market.

IN SELECTING THIS VOCALION
YOU MAY FEEL CONFIDENT
THAT YOU ARE SECURING A
PHONOGRAPH OF HIGHEST
QUALITY; UNEQUALLED IN
TONE; DISTINCTIVE IN AP-
PEARANCE, AND RICHER IN
SPECIAL FEATURES THAN ANY
OTHER PHONOGRAPH ON
THE MARKET.

*In selecting this Vocalion you may feel
confident that you are securing a pho-
nograph of highest quality; unequalled
in tone; distinctive in appearance, and
richer in special features than any other
phonograph on the market.*

Figure 108: Sample of printed matter showing relative legibility of upper case, lower case, and italics (See page 421)

One fact is proved. The value of
advertising depends on the value of
the reading matter that goes with it.

One fact is proved. The value of
advertising depends on the value of
the reading matter that goes with it

Figure 109: The upper half of a letter furnishes a better clue to meaning than the lower half. (See page 421)

proper selection of a type-face and by proper leading, the number of subscribers that could appear on one page was increased by one-fourth and the legibility increased by about 10% over the earlier page arrangement.

INFLUENCE OF LENGTH OF LINE

The efficiency and comfort with which a line of print may be read depends not only upon the character and size of the type-face, spacing, subject-matter, and phraseology, but also upon the length of the line. In order that the influence of length of line may be measured, all other factors must be kept constant. This has been done in a study by Dearborn¹ who finds that there is a certain optimal length of line for a given type-face, and so forth. He concludes as follows: "The differences in the rate of reading in the case of the same individual and between different individuals depend largely, when other conditions are constant, on the ease with which a regular rhythmic movement can be established and sustained. The peculiarities of this

¹Dearborn, W. F., "The Psychology of Reading," *Archives of Philosophy, Psychology and Scientific Methods*, 1906, p. 4.

movement are two: first, a succession of the same number of pauses per line, and second, a certain fairly uniform arrangement in the order of long and short pauses; namely, (1) the first pause of a line longer than succeeding pauses, and (2) a secondary increase in the duration of the pauses near the end of the line. These peculiarities are mutually dependent, and they are due chiefly to differences in the length of the text lines. If the line is of such length that it is not possible to secure at the first fixation of the line a fairly definite impression of a large part of the line, the eye must advance, so to speak, more cautiously, and devote its attention more equally to each section. The reasons for this are, first, that the peripheral perception being less exact, there is danger of confusion with the line lying immediately above or below the one being read; secondly, the incidental but constant concurrent impression of words lying above and below, and, in fact, the general characteristics of those words are of no particular value and not infrequently distracting in the case of the long line, but are doubtless a distinct advantage in the short line. Suppose, for example, that when the eye is fixating at the beginning or end of one line, a few words from the next line are caught sight of. If this happens in a very long line, the words will have little or nothing to do with the immediate

This is an example of lines too long for the size of the type employed and you will find in reading them that the eye does not pass down from line to line with as much comfort and accuracy as it should.

The eye is able to pass pleasantly down from line to line and read with comfort when the length of the line is in proper relation to the size of the type, as here.

Figure 110: With a given size of type, there is an optimal length of line for easy reading. (See page 426)

sense, and must, therefore, be disregarded; whereas in the short line there are fewer intervening words and ideas, so that the peripheral vision may aid in keeping the sense. So also in the case of misunderstandings, words which are connected with those being read are found in greater proximity in the shorter line and can be more easily referred to. In a long line, the matter lying immediately above is more apt to belong in another sentence." Figure 110 shows lines which, for the type used, are too long for comfortable reading; it also shows other lines which are about the right length for comfortable reading.

INFLUENCE OF UNIFORMITY OF LENGTH OF LINE

It is one of the essential requirements for easy and rapid reading that the eye should at once be able to acquire a "regular and uniform motor habit of reaction" for each line. When the length of the lines remains constant, such a motor habit is quickly developed. But if the lines differ in length, as in the advertisement illustrated in Figure 111, not only are the eye movements more inaccurate but a slower and more laborious form of movement must be adopted. This

WATER FRONT STORAGE

6 ACRES OF DOCK SPACE

19th & 20th Sts. Brooklyn

Convenient to All Steamship Lines & Railroad Terminals

BERTHS for STEAMSHIPS & BARGES

In addition to the above we have several warehouses in N. Y. and Brooklyn with R. R. Sidings and docks in the free lightering zone.

MOTOR TRUCKING

We have the largest fleet of heavy-duty trucks in New York, consisting of 55 Trucks of 8 tons capacity each.

SERVICE GUARANTEED ON ONE HOUR'S NOTICE.

CALLAN BROS. 714 East 135th St. N.

Phone Melrose 2281-2282-2283

Figure 111: An advertisement that, for many reasons, is difficult to read

is especially true in cases where the lines are broken by the insertion of small pictures and similar objects. Naturally, however, ease of reading is not the sole aim—some allowance must be made for esthetic effect, just as in the case of choice of type-face. But where any compromise is adopted, too much of the pleasant feeling-tone from freedom from strain must not be sacrificed in favor of pleasant feeling-tone from arrangement of type and lines. We have not come to that stage in the analysis of feelings where we can say that feelings of the second type are more desirable than those of the first type. Indeed, there is some reason for believing that pleasant feeling-tone is just pleasant feeling-tone regardless of its cause.

This survey of feeling-tone and its dependence upon type in respect to its form, its size, its arrangement into words and into lines should convince the reader that no factor concerning the layout of type may be neglected if the maximal effectiveness is to be obtained. Even though any one of these, taken alone, produces a feeling reaction ever so slight, they might, when taken all together, exert a considerable cumulative effect.

XVII

THE FEELING-TONE OF COLORS AND COLOR COMBINATIONS

Difficulties in the measurement of feeling-tone of colors. Feeling-tone depends on the three attributes of color. The elementary colors. The mixing of colors. The color triangle. The effect of illumination upon color experience. The meaning of colors. Preferences for single colors. Color preferences are stable. Influence of age and sex on color preferences. Preferences for colors, tints, and shades. Preferences for colors used in advertisements. Preferences for color combinations. Laws of color harmony. Relative pleasantness of various color pairs. Pleasantness of combinations depends on pleasantness of constituents. Preferences for color combinations used in advertising. Appropriateness of color combinations. Relative suitability of color pairs for various purposes. Stability of judgments of appropriateness. The factors that determine appropriateness. Summary.

THE increasing use of color and combinations of color in advertising has been referred to in Chapter XI. At the same time certain limitations to the effectiveness of color as an attention device were pointed out, while other possible justifications for the use of color were predicted. One of these is the pleasant feeling-tone that may be thus aroused and transferred to or transfused into the total reaction to the advertising. The feeling value of color is difficult to investigate, and the studies found in the literature of psychology and esthetics must be interpreted in the light of these difficulties. First, there is the complex character of color experiences and the difficulties of reproducing them in identical form under varying circumstances, such as the character of the general illumination, the nature of the colored surface, and so forth. Colored experiences vary one from another in a number of respects and these must be kept constant if conclusions derived from one experimental study are to be comparable with others or are to be applied to advertising or other practical situations. There is no

doubt that many conflicting opinions as to the relative esthetic value of different colors are due not so much to the actual differences in the preferences of people but to the differences in the character of the colors themselves. A brief consideration of these variable attributes of color is essential for the understanding and interpretation of color studies and will be presented in the following pages.

A second difficulty arises in the attempt to react to different colors merely as such and not as colors for a certain purpose or as certain colored objects. Many persons seem unable to evaluate colors in this abstract fashion. When a man is asked to state his preference between the colors red and blue, does he choose blue because he thinks of these colors in terms of suits of clothes and neckties? When a woman is confronted with the same two colors and chooses red, does she think of them in terms of ribbons, hats, and so forth? It is quite possible that just such differences in color preferences as have been found, especially between the sexes, are due to this factor of association with use or purpose. At least this possibility should be kept in mind and an attempt made to determine the appropriateness of different colors for different advertising purposes, if such exist. The discovery of the colors preferred for different purposes has led to the suspicion that there is no immediate or innate color preference, but that it is all a matter of custom and experience. For instance, those combinations of color that in nature are considered most beautiful, such as the pink and green of flowers and their leaves, would be nearly impossible in a garment.

There is one other matter which complicates the problem of applying the esthetics of color to advertising, namely, that the feeling value of colors taken singly may be modified when they are presented in combination with other colors. At least the question should be asked as to how far single colors retain their feeling-tone when combined. After a brief consideration of some of the facts of color experience, this chapter will deal with the feeling value of single colors,

of color combinations, and with the appropriateness of certain color combinations for specific advertising purposes.

THE FACTS OF COLOR EXPERIENCE

A certain amount of confusion often arises from differences in color terminology; the artist, the physicist, and the psychologist use different names for the same characteristics of color. But much of this confusion may be avoided by first discovering certain elementary facts about colors, whereupon any set of names may be applied to them. A simple psychological experiment frequently performed in the laboratory consists in presenting to the student a large collection of bits of differently colored papers, with instructions to classify and arrange them into some kind of system or order. Three systems, or bases for classification, are usually discovered without any previous knowledge of color attributes. First, some colors are found to be brighter than others; some reds are brighter than other reds, and yellows are brighter than reds or blues. With some difficulty, one can arrange all the bits of color in a series running from very bright to very dark.

Beginning again with the same collection of colors, one may arrange them according to their richness or paleness. Some reds are richer or more saturated than other reds; and reds and blues are richer or more saturated than yellows and greens. If such a series is constructed, the reds will be at the one end and the yellows at the other, with the greens occupying an intermediate position. Yellow is ordinarily the palest color.

Beginning once again, the bits of paper can be grouped into reds, yellows, greens, and so forth. Furthermore, the reds will lead into the yellows, the yellows into the greens, the greens into the blues, and the blues finally into the reds.

Thus, without knowing anything about technical terms, one may discover the three fundamental characteristics of color, namely, brightness, saturation, and color-tone.

FEELING-TONE DEPENDS ON THE THREE ATTRIBUTES
OF COLOR

Naturally, in order that two reds shall look the same, they must have the same color-tone, the same saturation, and the same brightness. The same may be said of greens or any other colors. With the sources of color experience usually employed in advertising, it is very difficult to control these three factors. Colored papers are usually relatively pale and dull; that is, they have low saturation and brightness. Moreover, they differ in these respects from time to time. Manufacturers of colored papers for experimental laboratory purposes find it almost impossible to produce papers with standardized tone, saturation, and brightness. Under the circumstances, one can scarcely expect printed advertising to show even as great a control of these attributes of color. The reason that these facts are dwelt upon here is that the feeling-tone of a color depends upon just these characteristics. Generally, saturated colors are preferred to the weak colors—a red or a blue is preferred to a yellow—and yet a saturated yellow may be preferred to a weak red or blue. Likewise, bright colors are preferred to dull—orange is preferred to brown—and yet a bright brown might be preferred to a dull orange. To apply these facts to advertising, we might choose a red background for an advertisement because it stands high in tests for feeling value, but the character of the red (saturation and brightness) as actually printed might not be pleasing at all.¹

THE ELEMENTARY COLORS

With the same collection of bits of paper, a further fact of importance may be discovered, namely, that there are four colors that seem to be pure, simple, or elementary—they are red, yellow, green, and blue. Psychologically these are the fundamental color sensations. The others seem to

¹Several schemes have been developed for standardizing these variables in printing colors. Perhaps the best known is the Munsell System.

be mixtures of these. For instance, orange bears some resemblance to both red and yellow; purple bears some resemblance to both red and blue. The other colors show their resemblance to the simple colors by their names, as for example, blue-green, yellow-green, and so forth. It should be noticed here that these are not the simple or elementary colors of the artist nor those of the physicist. The former gets his elementary colors by finding those pigment colors which when properly mixed will give all the other colors. They are usually red, yellow, and blue. The physicist gets his elementary colors by finding those colored lights or wave lengths of light which will give, when properly mixed, all the other colors. They are red, green, and violet. The four psychologically simple colors when supplemented by black and white will also give by mixture all the other color-tones, saturations, and brightnesses which the human eye is capable of seeing.

THE MIXING OF COLORS

There is one other important characteristic of color experience that our collection of colored papers suggests, although more elaborate tests are needed to bring out all the facts. It was noticed that orange seems to partake of the character of both red and yellow—it might be called a blend of these two colors. Likewise, purple, blue-green, and yellow-green are blends. They are also blends in the sense that if we adopt some means of mixing¹ the colors, we will get orange by mixing red and yellow, purple by mixing red and blue, and so forth. That is, our observa-

¹There are several ways in which colors may be mixed, other than by directly mixing pigments. One method is to direct beams of the colored lights to be mixed into the eye simultaneously. The same effect may be produced by the use of colored papers instead of lights. Since the effect of any stimulation of the eye lasts for a fraction of a second after the stimulation ceases, a rapid alternation of two or more colors will produce an overlapping effect since a second stimulation occurs before the first has ceased. A mixture is thus produced that is equivalent to the effect of simultaneous stimulation by the colors. Small color tops sold by Bradley Manufacturing Company are excellent for demonstrating the effects of color mixture.

tions from the slips of paper are borne out by experiment. If the mixing experiment is continued further, it will be found that some colors, when mixed, do not give an intermediate color at all, but instead produce a colorless effect. Thus, yellow when mixed in the proper proportions with blue will give not a bluish yellow but a grey, (that is, of course, not true of artists' pigments which will give green.) In fact, for every color, another can be found which when

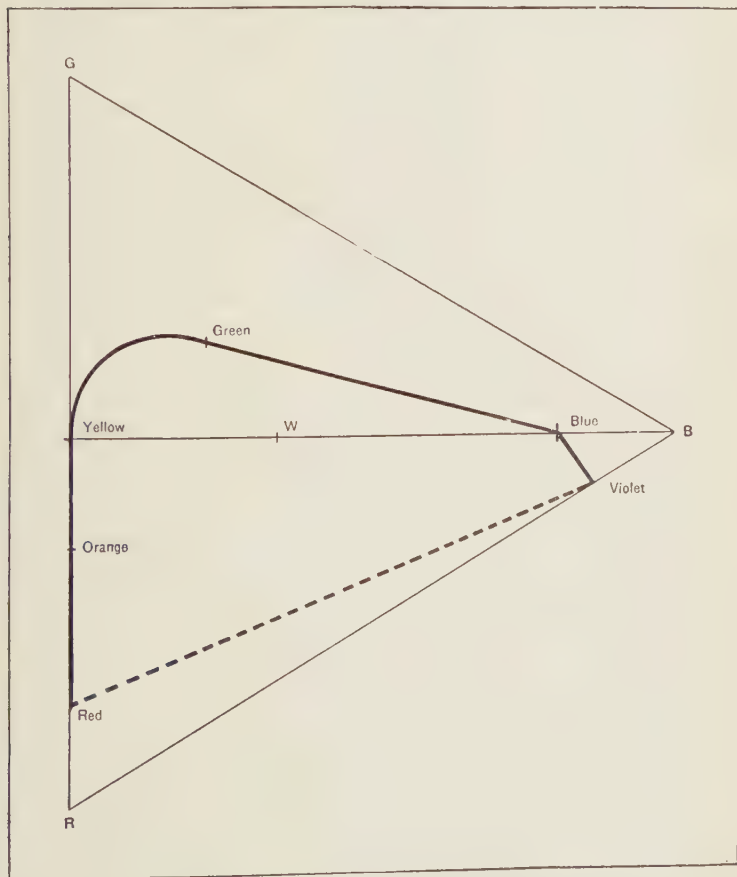


Figure 112: The color triangle showing the relations among the spectral colors and the facts of color mixture (*See page 434*)

mixed with it, will give a colorless result. Such pairs of colors are said to be opposite, antagonistic, contrasting, or complementary—the latter is the commonly used technical term.

THE COLOR TRIANGLE

The diagram shown in Figure 112 and known as the Color Triangle represents graphically the important facts of color mixture. The heavy black line indicates the spectral colors, from red to violet, arranged in order, and the dotted line indicates the purples that lie between violet and red, but do not appear in the spectrum. The triangle in faint lines with its corners marked R. G. B. indicates the colors at their greatest saturation. The center of the triangle marked W represents zero saturation of color or white light. The farther from this central point the richer or more saturated will the color be. The first point demonstrated by this figure is that most of the spectral colors are not the richest possible colors although they are far richer than can be obtained by the ordinary use of pigments and inks. (Since colors richer than spectral colors cannot possibly be employed in art work, nothing further need be said of them.) The orange and the violet color-tones of the spectrum are the only ones of maximum richness. The greens and blue-greens are the palest or weakest, as the line representing them comes nearest to the center, W. Some notion of the effect of mixing two colors may be obtained by drawing a straight line between the points representing these colors on the curve. For example, such a line drawn between yellow and blue passes through the central point and hence gives a colorless effect—they are complementary. On the other hand, a straight line drawn between red and yellow does not approach the center, W, at all; hence the resulting color, orange, is a rich or saturated color. In the same way a red and a blue when mixed give a fairly rich purple, as indicated by the position of the line connecting these two points. But a straight line connecting yellow and blue-

green will give a color that is weak or pale. Any straight line drawn through the center of the figure will connect complementary colors, and any line that does not pass through W will connect non-complementary colors.

THE EFFECT OF ILLUMINATION UPON COLOR EXPERIENCE

One other fact about colors should be mentioned, namely, the changes which they undergo when the general illumination changes. When it becomes dimmer, as at twilight, the color values change—the blues and greens become relatively brighter, the reds and yellows become relatively darker. A more important change takes place when the general illumination is itself colored. Colors when seen under ordinary electric light have different values than when seen in daylight. Yellows become white, while blues and greens may be indistinguishable. Colors cannot be matched properly under such artificial light. Stores are now equipped with special daylight lamps where neckties, silks, and so forth, are sold, in order that colors may be seen as they will appear in daylight. The most important application of these facts in advertising has to do with precautions that are necessary in testing for color effects. However, it might be possible that colors, for such mediums as theater programs, and for interior-display effect in stores, which are seen under artificial lighting, should be chosen with these facts in mind.

THE MEANING OF COLORS

Colors are generally believed to carry certain meanings or to have certain emotional values which should be taken into account in their use in advertising and elsewhere. A recent incident from the field of advertising will illustrate what is meant. When a distinctive color was sought for Boyce-ite Gasoline, which would serve as a kind of trademark, red was first suggested. However, preliminary try-outs of this color met resistance because of the notion that

the red fluid would heat up the engine. For this and other practical reasons blue-green was chosen as the proper color. Experience seems to show that this was a happy choice. The notion that red is hot is probably the reason why kerosene is colored red in some sections of the country, and also why red flannel seems warmer than white flannel. Many other illustrations of such adaptation of color to use might be drawn from the field of advertising and selling. Cases of apparent lack of appropriateness should not be neglected. For instance, most cooling summer beverages are brown or reddish in color, notably Coca Cola, Chero Cola, Root-Beer, Moxie; others are orange or yellow, such as Whistle and Ginger Ale. Few, if any, are green or blue-green in color.

The following characterization¹ of colors is typical of the common belief and is presented here as such rather than as a statement of fact:

Yellow expresses light, cheer, vivacity, pleasure. This is so because it looks nearest like the sun, the moon or artificial light. The beneficial effect of the sun upon plants and upon the physical welfare of human beings is well known. The color yellow has a similar effect, because of the mental association with light itself and the effects of light in human experience. This color brings the qualities of light and cheerfulness wherever it is used and carries those qualities in display as a method of creating an atmosphere in which these are prominent.

Red is the color of human interest. It looks like fire. It is that which stirs human action, causes the blood to move more rapidly, thereby exciting to greater mental activity, arousing passion, expressing force, and kindling the feeling of warmth. It is called a "hot" color and in its fullest brilliancy is the strongest, the most irritating and the most aggressive of all colors. Civilized women with some rudiments of good taste would never think of wearing this color in mid-July under the hot sun, out of respect for their fellow men who must look upon it.

Blue is restraint, is almost the opposite of red in its feeling. It soothes, constrains, sometimes almost repels—because of its very nature. It is called the "cold" color. Sometimes the so-called steel-blue gives almost the sensation of freezing. Because

¹Tipper, Hotchkiss, Hollingworth, and Parsons, *Advertising: Its Principles and Practice*, 1919, pp. 342 ff.

this is so, blue expresses its own idea or quality which no other color can express for it.

Green is light and coolness. Nothing is more agreeable, particularly in summer, than a light, cool spot in a heated car, or in other places where display ideas most abound. Do you notice that the grass and trees are green when the summer is hot and that the sky is blue? These are the antidotes for excessive heat. They produce upon the mind qualities which become permanent in consciousness, so that in every generation is bred the feeling of a quality belonging particularly to each color.

Orange is light and heat. That makes a conflagration and is destructive to public consciousness when seen in large quantities misapplied. A little fire is a good thing, but a big one may do much damage.

Violet or purple is an equal union of fire, or coals of fire and coolness, or ice. Ashes must result. This is the color which is used to express shadow. It is the opposite of yellow, its complement, its destroyer. It neutralizes cheer, dispels light, creates gloom, brings on the night.

For a more extensive treatment of the meanings of color the reader is referred to Luckiesh¹ who reviews the symbolism of color at length.

This matter of the meaning of colors has seldom been experimentally investigated. One such study is, however, reported by Luckiesh. Twelve colors given in Table 79 were placed in their spectral order upon a gray background, and a list of 20 adjectives was displayed upon a blackboard. The persons taking part in the experiment were required to write one of these adjectives or any other one that occurred to them, which expressed the feeling or mood suggested by each color. In the table the combined results from 63 persons are given. The 20 adjectives have been grouped into three classes; namely, "exciting," "tranquilizing," and "subduing," and the data are presented under these three heads.

This table shows that the exciting colors are those toward the red end of the spectrum, the subduing toward the violet end, and the tranquilizing occupy an intermediate position

¹Luckiesh, M., *Light and Color in Advertising and Merchandising*, 1923, chap. v.

TABLE 79
THE MEANING OF COLORS*

Color	Exciting	Tranquilizing	Subduing
Crimson	41	0	10
Scarlet	56	0	0
Deep Orange	59	0	0
Orange-Yellow	55	6	0
Yellow	53	6	0
Yellow-Green	14	39	5
Green	28	32	0
Blue-Green	32	23	6
Blue	11	21	30
Violet-Blue	0	17	45
Violet	0	6	54
Purple	3	1	48

*Luckiesh.

among the greens and blue-greens. It is difficult, indeed, if not impossible, to determine the origin of such reactions to colors. They seem wide-spread enough and uniform enough to deserve the attention of those who use color in delivering a message. Such meanings of color may not only have an influence in shaping the preferences for colors themselves, but may also play a part in determining the appropriateness of colors for different purposes.

PREFERENCES FOR SINGLE COLORS

The pleasantness of a color depends upon a variety of factors such as its saturation, brightness, and the character of the general illumination in which it is seen. Most of the experiments which have been reported in the literature of color were done with colored papers under ordinary daylight illumination, consequently none of the factors mentioned above was standardized so that it could be exactly duplicated by other experimenters. This accounts in large measure for some of the confusion in the earlier results. Only a few of the more elaborate and pertinent studies will be mentioned here.

Bradford¹ tested the relative preferences of a large number of people for the 15 colors listed in Table 80 where they are arranged in order of preference. Number 1 is the most preferred and Number 15 is the least preferred.

TABLE 80
PREFERENCES FOR SINGLE COLORS*

Color	Order	Color	Order
Dark blue	1	Bluish green	9
Saturated green	2	Ink red	10
Chocolate brown	3	Cinnamon brown	11
Pale blue	4	Pale "pinkish"	12
Slate grey with bluish tinge...	5	Bluish green	13
Saturated crimson	6	Pink	14
Pale green	7	Yellowish green	15
Coffee brown	8		

*Bradford.

Two conclusions may be drawn from this table; namely, that saturated colors are preferred to weak colors, and pure colors (in terms of their appearance) are preferred to mixed colors. The first four colors are pure colors and the last four are mixed; also dark blue stands first while pale blue stands fourth, and saturated green stands second while pale green stands seventh. If one considers the average positions assigned instead of the order of preference (given in the table) based on these averages, it is found that the lowest average position is 10.5, while the lowest possible position would have been 15. From this the author concludes that, when taken singly, all colors are rather pleasant.

COLOR PREFERENCES ARE STABLE

Bradford measured the reliability of people's preferences for color by having a few persons repeat their reactions after periods of 14 days and 12 months. He found the arrangements very similar. Expressed in terms of coefficients of correlation, the average relationship between the

¹Bradford, E. J. G., "On the Relation and Aesthetic Value of the Perceptive Types in Colour Appreciation," *American Journal of Psychology*, 1913, XXIV, pp. 245 ff.

first arrangement and another made 14 days later was $+.90$; that between the first and another made 12 months later as $+.84$; and that between the second and third arrangement was $+.86$. These correlations suggest that color preferences are stable and lasting and not dependent upon the momentary condition of the person making the choice.

Winch¹ tested the color preferences of 2,000 children and adults by a simple adaptation of the order of merit method. Instead of actual colors he used merely the names of colors as follows: red, blue, yellow, green, white, black. Names were used instead of colors in order that the results might not depend upon the particular specimens of colors chosen. He believed that when confronted with the names of colors his subjects thought of highly saturated colors. He reports his data separately for boys and girls and for each of six school grades and one group of adults of each sex. In Table 81 the results are given in terms of the order of preference, 1 being the most preferred and 6 the least preferred. The school grades are noted along the top of the table. Under each grade are the results for the girls (F) and for the boys (M).

INFLUENCE OF AGE AND SEX ON COLOR PREFERENCES

Blue is found to retain first place, and black last place throughout all school grades. Red is also very stable in second place. The most striking facts about this table concern the shift in position of yellow and green. Yellow stands high in the lower grades and green stands low, but the higher the grade the more does the green rise and the yellow fall, until in the adult, green is either first or second and yellow next to last. Many other studies confirm this finding. Winch was able to show that the shift is more directly related to intelligence than mere chronological age. His figures obtained from schools of different social status show

¹Winch, J., "Colour Preferences of School Children," *British Journal of Psychology*, 1909, III, pp. 43 ff.

TABLE 81
PREFERENCES FOR SINGLE COLORS*

Color	GRADE II		III		IV		V		VI		VII		ADULTS	
	F	M	F	M	F	M	F	M	F	M	F	M	M	F
Blue.....	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Red.....	2	3	2	2	2	2	2	2	2	2	2	2	4	3
White.....	4	5	3	5	3	5	3	5	4	5	4	5	3	4
Green.....	5	4	4	4	4	4	4	3.5	3	3	3	3	2	1
Yellow.....	3	2	5	3	5	3	5	3.5	5	4	5	4	5	5
Black.....	6	6	6	6	6	6	6	6	6	6	6	6	6	6

*Winch.

that the higher the social status the higher is the standing of green and the lower is the standing of yellow. As far as he could determine from meager evidence, his results did not depend at all upon training in the use of colors.

PREFERENCES FOR COLORS, TINTS, AND SHADES

Luckiesh¹ made an elaborate study of 18 colors (6 pure colors, 6 medium tints, and 6 medium shades) by means of the method of paired comparisons (see Chapter V) in which each color was compared separately with each other one, making for each person a total of 153 separate judgments. Records are given for 115 men and 121 women. He tried to eliminate the influence of association by instructing his subjects "to forget everything else and live in a world of color." His data are presented in Table 82, where the values are derived as follows: "The results of the total preferences for each of the 18 colors have been reduced to percentages of the average." For example, the sum of all the figures for the men is approximately 1,800, and since there are 18 colors, the average number of choices would be 100 for each color. This average value is, then, taken as a base and each color is expressed in terms of 100. For example, pure red has a value of 148, which means that

¹Luckiesh, M., *Light and Color in Advertising and Merchandising*, 1923, pp. 33 ff.

TABLE 82
PREFERENCES FOR SINGLE COLORS*

Color	MEN			WOMEN			BOTH		
	Order	Tint	Shade	Order	Tint	Shade	Order	Tint	Shade
	Pure	Order	Shade	Pure	Order	Shade	Pure	Order	Shade
Red.....	148	2	97	141	1	99	145	1	98
Orange.....	112	5	71	103	5	65	108	5	68
Yellow.....	93	6	55	91	6	44	92	6	50
Green.....	121	4	84	105	4	101	113	4	93
Blue.....	164	1	109	120	2	111	142	2	110
Violet.....	128	3	108	116	3	113	122	3	111
Percentage of Total.....	42.6	28.2	29.2	37.6	32.9	29.6	40.0	30.6	29.4

*Luckiesth.

it was chosen 48% oftener than the average; likewise pure yellow has a value of 93, which means that it was preferred 7% less frequently than the average. The table as here given shows the order of preference separately for "pure colors," "tints," and "shades." Along the bottom of the table the averages are given for "pure colors," "tints," and "shades," regardless of color. Table 83 shows the order of preference of all the 18 colors regardless of whether they are pure colors, color tints, or color shades.

TABLE 83

ORDER OF PREFERENCE FOR COLORS, TINTS, AND SHADES*

Color	Male	Female	Both
Blue	1	2	2
Red	2	1	1
Violet	3	4	3
Green	4	8	5
Blue tint	5	6	4
Orange	6	9	8
Blue shade	7	7	7
Violet shade	8	5	6
Red tint	9	16	13
Red shade	10	11	10
Violet tint	11	3	9
Yellow	12	14	12
Green shade	13	10	11
Orange shade	14	17	17
Green tint	15	13	15
Yellow tint	16	12	14
Orange tint	17	15	16
Yellow shade	18	18	18

*Luckiesh.

This experiment confirms those previously described in that pure colors are preferred to their tints and shades, also in that while red and blue and green stand high, yellow stands low. We find blue most preferred by men and red by women, a fact which has frequently been reported as an important sex difference. The greatest difference between the sexes is in their reaction to violet tint which women

rank very high compared with the position given to it by the men.

Washburn¹ measured the affective value of single colors, (18 saturated colors, 18 tints, and 18 shades) on a scale of values from 7 to 1, as follows:

- | | |
|-----------------------|-------------------------|
| 7—Very pleasant | 3—Slightly unpleasant |
| 6—Moderately pleasant | 2—Moderately unpleasant |
| 5—Slightly pleasant | 1—Very unpleasant |
| 4—Indifferent | |

Each of the 35 persons who served as subjects evaluated each of the 54 colors by giving it a place on the scale in terms of the numbers 7 to 1. The average values thus obtained for each color are given in Table 84, where saturated colors, tints, and shades are listed separately.

TABLE 84

COLORS, TINTS, AND SHADES EVALUATED BY SCALE METHOD*

	Saturated Colors	Tints	Shades
Red	5.6	4.6	4.8
Green-Blue	5.3	4.7	4.5
Orange-Red	4.5	4.7	4.3
Violet	4.4	5.9	4.4
Orange-Yellow	4.0	4.4	2.7
Blue-Violet	4.0	5.5	4.5
Blue	3.8	6.0	5.0
Violet-Blue	3.8	5.1	4.8
Violet-Red	3.7	3.4	3.9
Red-Orange	3.6	4.6	4.3
Blue-Green	3.4	4.6	3.7
Yellow-Orange	3.4	4.5	3.8
Yellow	3.3	4.4	2.3
Green	3.0	4.8	4.5
Red-Violet	3.0	5.9	3.8
Yellow-Green	2.6	5.0	5.3
Orange	2.6	4.3	3.8
Green-Yellow	2.1	3.8	3.8
Average	3.6	4.7	4.1

*Washburn, M. F.

¹Washburn, M. F., "A Note on the Affective Value of Colors," *American Journal of Psychology*, 1911, XXII, p. 114.

TABLE 85
COLOR PREFERENCES OF MEN AND WOMEN*

Color	PERCENTAGE WHO LIKE IT		PERCENTAGE WHO DISLIKE IT	
	Men	Women	Men	Women
Red	22	42	7	8
Orange	5	8	25	31
Yellow	2	5	32	8
Green	7	9	15	21
Blue	42	9	12	23
Violet	19	19	8	9
White	3	8	1	0

*Wissler.

Taking the average values assigned to the saturated colors, tints, and shades, we find that the tints are on the whole the most pleasant, the shades are next, and the saturated colors are last. She states, further, that the affective reaction to saturated colors, whether pleasant or unpleasant, is stronger than to tints and shades; and also that the saturated colors change less from the fatigue of seeing colors. The size of the colored area has some influence on the feeling-tone. In general, the smaller areas of saturated colors are preferred, while the larger areas of tints and shades are preferred.

The data show that yellow and yellow-green tend to be disliked, while red and blue-green are most preferred in the saturated colors. The shifts in pleasantness that result from lightening (tint) and darkening (shade) a color are interesting and may be seen in the table.

Wissler¹ presented seven colors to men and women college students with instructions to select the color that they *liked* most and the one that they *disliked* most. His results are shown in Table 85. Men are seen to prefer blue and to dislike orange and yellow, while women prefer red and dislike orange, green, and blue. Considering the age of his subjects, he found that yellow was more frequently preferred by the younger than by the older students, a conclusion also reached by Bradford.

¹Wissler, C., *Psychological Monographs*, 1901, III.

Gordon¹ has shown that the relative preference for colors depends upon the background against which they are seen. For example, the four colors, red, yellow, green, and blue on a black background are evaluated in that order; but when seen on a white background, they take the order blue, red, green, yellow.

PREFERENCES FOR COLORS USED IN ADVERTISEMENTS

Starch² found the order of preference for a series of single colors appearing in advertisements, and when seen as isolated patches of color. His results in a condensed form and for only one of his groups, "consumers," are given in Table 86.

TABLE 86
PREFERENCES FOR SINGLE COLORS*

Color	In Advertisements Isolated	Color	In Advertisements Isolated
Purple-Blue	1	Violet	6
Blue	2	Yellow	7
Yellow-Red	3	Green	8
Blue-Green	4	Orange	9
Red	5	Green-Yellow	10

*Starch.

Although Starch says that there was fairly close agreement between the color preferences when the colors are seen on the advertisement and when they are seen off the advertisement in patches, there are several striking discrepancies. It seems likely that these shifts of values are due to the evaluation of the color in the advertisement in terms of its appropriateness rather than simply in terms of pleasantness independent of use. Or it may be that the color preference is influenced by other non-color qualities of the advertisement. It might be extremely difficult to abstract the color from the other characteristics of the advertisement in order to judge it.

¹Gordon, K., *Aesthetics*, 1909.

²Starch, D., *Principles of Advertising*, 1923, pp. 598 ff.

The study of preferences for single colors shows some clear-cut results, although care must necessarily be exercised in applying them to advertising problems. Colors that are pure and rich are preferred regardless of the color, and blue and red are the most preferred colors generally. With the reservations made necessary by the influence of background, it may be said that, where single colors are to be used, and other considerations do not interfere, pure, rich colors should be used. For example, in trade-marks, and backgrounds of advertisements, these findings might be applied. Where combinations of color are employed, different conditions may hold.

PREFERENCES FOR COLOR COMBINATIONS

The so-called laws of color harmony are intended to show the principles upon which pleasing combinations of color can be derived. They are the Law of Analogy or Likeness and the Law of Contrast or Complementaries. These laws are based upon the primary colors of the artist, red, yellow, and blue, hence do not conform entirely to the psychological analysis made at the beginning of the chapter which showed four primary colors—red, yellow, green, and blue.

LAWS OF COLOR HARMONY

The Law of Likeness states that those colors will combine pleasantly which do not cross a primary color. Remembering that the primaries are red, yellow, and blue, this law allows the combination of two or more colors from each of the following sets:

Red, Red-Orange, Orange, Yellow-Orange
Yellow, Yellow-Orange, Orange, and Red-Orange
Yellow, Yellow-Green, Green, and Blue-Green
Blue, Blue-Green, Green, Yellow-Green
Red, Red-Purple, Purple, Purple-Blue
Blue, Purple-Blue, Purple, Red-Purple

A combination such as yellow-green, yellow, yellow-

orange would not be in accord with the law, since colors are taken from either side of the yellow, that is, the combination has in it both green and red elements.

The Law of Contrast states that an elementary color may be crossed and complementary colors combined if the colors are properly "keyed." For instance, a red and a green, one on either side of the elementary color yellow, make a pleasant combination if each is *weakened*. This weakening may be thought of as resulting from the mixture of each with its complementary color. Reference to Figure 112 and to the discussion of it will show that such a mixture makes the resultant color tend toward a neutral grey. Thus the two complementary colors are made to resemble each other, and are, in a sense, transformed into likes by bringing each toward a neutral grey. Any two pairs of opposites or complementaries which cannot be combined according to the Law of Likeness may be combined according to the Law of Contrast when the colors are weakened. There is much difference of opinion as to which type of combination is preferred in general. Usually, however, the preference seems to go to the combination of opposites. For example, Luckiesh reports an experiment in which 15 different colors were laid out on a table and subjects were instructed to pick the pair of colors that was most preferred. He says that almost invariably the first pair chosen was a pair of closely complementary colors; and further, that only on rare occasions were combinations chosen that were close together in the spectrum.

A corollary to the Law of Contrast is usually added concerning the relative areas of the two colors. The larger the areas, the weaker the colors should be. When one colored area is quite small compared with its complementary, the former may be relatively intense. For example, a small patch of brilliant red may properly appear upon a weak background of green or vice versa.

The application of these laws does not establish the relative pleasantness of the various combinations of color, but

rather shows how various colors may be effectively combined. Experiments, such as were described in connection with the feeling quality of single colors, are necessary for this purpose. One such experiment will be reported because of the importance of its findings.

RELATIVE PLEASANTNESS OF VARIOUS COLOR PAIRS

Geissler¹ studied the order of preference for the following 7 colors and their 21 combinations. The stimuli were Milton-Bradley pigment colored papers, and the method of paired comparisons was used in presenting the colors singly or in pairs. Table 87 gives the order of preference for the single colors for 61 men and for 61 women, and for the two groups combined.

TABLE 87
PREFERENCES FOR SINGLE COLORS*

Rank	Men	Women	Both
Highest.....	Blue	Green	Green
Intermediate.....	Purple	Purple	Red
	Green	Red	Blue-Green
	Blue	Blue	
Lowest.....	Red	Yellow	Purple
	Yellow	Blue-Green	Yellow
	Blue-Green	Orange	Orange
Lowest.....	Orange	Orange	Blue

*Geissler.

The colors are grouped into three classes: "Highest," which contains only the most preferred; "Lowest," which contains only the least preferred; and "Intermediate," which contains the remaining five. The spaces between some of the colors indicate that the distance between these

¹Geissler, L. R., "The Affective Tone of Color Combinations," *Studies in Psychology*, Contributed by Colleagues and Former Students of E. B. Titchener, 1917, pp. 150 ff.

is relatively great, on the basis of average positions assigned to them. The same facts previously brought out are evident here also, especially that men prefer blue and women prefer red to blue. The high position of green for women has been found before in the experiment by Winch (Table 81). Orange and yellow stand low for both sexes. Table 88 gives the order of preference for the 21 combinations of two colors.

TABLE 88
PREFERENCES FOR COLOR COMBINATIONS*

Colors	Men	Women	Colors	Men	Women
Yellow and Blue	4	5	Green and Purple	5	13
Green and Blue-Green . .	7	3	Green and Blue	1	16
Orange and Blue-Green . .	21	6	Red and Blue	2	14
Red and Blue-Green . . .	10	1	Yellow and Green	16	7
Orange and Yellow	20	8	Orange and Blue	15	18
Orange and Red	9	10	Blue-Green and Blue . .	8	15
Yellow and Blue-Green . .	10	4	Yellow and Purple . . .	17	17
Red and Green	6	2	Orange and Purple . . .	18	20.5
Orange and Green	14	12	Blue and Purple	3	20.5
Red and Yellow	12	9	Red and Purple	13	19
Blue-Green and Purple . .	11	11			

*Geissler.

An examination of these preferences with the laws of color harmony in mind shows that the most preferred combination for the men is a pair of "likes" while the second is a pair of "opposites"; for the women the first and second are pairs of "opposites." Of the two least preferred by men, one is an "opposite" and the other a "like"; for the women, the same thing is true.

PLEASANTNESS OF COMBINATIONS DEPENDS ON PLEASANTNESS OF COMPONENTS

The conclusion drawn by the author of this study is that the pleasing quality of a pair of colors depends on the pleasing quality of the two component colors, or as he states it: "*The greater the pleasantness of the individual constituents, the greater will be the pleasantness of the combination.*" This statement may be verified by comparing

the items in Table 87 and Table 88. In doing so, it should be remembered that the colors are all saturated colors and are not changed to make any of the combinations of "likes" or "opposites." Take the case of the most preferred combination for men, namely, green and blue, and by referring to Table 87 we find that blue stands first and that green is in the intermediate group. The combination that stands last for men is orange and blue-green, and Table 87 shows that orange is last and blue-green next to last. For the women, the combination of red and blue-green stands highest, while in Table 87 they stand highest in the intermediate group. The two groups that stand last for women contain one color each that stands low as a single color. Geissler would do away entirely with the laws of likeness and contrast and find in the pleasantness of any combination of colors merely the summation of the pleasantness of the constituent colors. A conclusion so unique as this should be subjected to further experimental work. Meanwhile his order of preference for color combinations may be accepted as valid. For advertising purposes where there are no other determining factors in the choice of colors, the mere pleasantness of the combination should have some weight.

PREFERENCES FOR COLOR COMBINATIONS USED IN ADVERTISING

Starch made a comparative study of 10 two-color combinations when they appeared in advertisements and when they were cut from the advertisements. They were rated by the order of merit method. These figures will not be reproduced, as the color pairs in the one table do not coincide with those named in the other. Several of his conclusions may, however, be noted: (1) The value of the pairs of colors seems to depend somewhat upon the value of the single colors. This fact was clearly brought out in the work of Geissler. (2) Complementary combinations were

ranked relatively higher than non-complementary combinations in the judgment of the consumer group. (3) The artists and consumers agreed fairly well in their estimation of the color combinations though not in their estimation of the single colors. (4) "A blue and yellow combination seemed to be the outstanding favorite of all combinations. It was followed closely by a blue and red combination. Red and green, purple and orange, and red and orange combinations were ranked consistently among the lowest." These statements do not in all cases agree with the findings of Geissler. The discrepancies may be due to differences in the quality of the colors used or to differences in the method. (Geissler used the method of paired comparisons.)

APPROPRIATENESS OF COLOR COMBINATIONS

The question of the appropriateness of colors and color combinations for a given purpose has been raised several times in the course of this chapter. If colors carry the meanings which they are generally thought to carry, it is probable that the appropriateness or lack of appropriateness of specific colors for a given purpose would be quite pronounced. The illustration of red gasoline with its supposed heating qualities may be cited again in this connection. In attacking this problem of appropriateness of colors, one difficulty at least must be met. It concerns the origin of the appropriateness. If it is found, for example, that yellow is the most appropriate color to represent cleanliness and sanitation, is the reason to be found in the fact that yellow has so frequently been used for that purpose that we have learned to think of yellow as meaning those things? The same question has arisen in connection with all feeling reactions. There is one respect only in which it makes any difference whether the cause is the one or the other. If colors become appropriate through continued use, then any kind of color combination may in time become appropriate. As far as the choice of any color or color

combination for advertising is concerned, the question of immediate importance is: "How uniformly present is the feeling-tone throughout the population?" The experiment¹ to be described will furnish a partial answer to this question.

Twenty large plates, 8½ by 11 inches were prepared, each containing the design shown in Figure 113 and painted in two colors. The following color combinations were used:

Saturated Colors		Weak Colors	
A	Red and Yellow	B	Red and Yellow
C	Red and Green	D	Red and Green
E	Red and Blue	F	Red and Blue
G	Blue and Orange	H	Blue and Orange
I	Blue and Yellow	J	Blue and Yellow
K	Blue and Green	L	Blue and Green
M	Yellow and Green	N	Yellow and Green
O	Yellow and Purple	P	Yellow and Purple
Q	Yellow and Orange	R	Yellow and Orange
S	Red and Orange	T	Red and Orange
U	Red and Purple	V	Red and Purple

This assortment will permit the following comparisons:

1. Different color-tones
2. Strong and weak saturations
3. Complementary and non-complementary pairs

Along with this set of color plates, each subject was given a sheet containing the following list of terms:

Abstract	Concrete
1. Warmth	11. Building Material
2. Coolness	12. Jewelry
3. Repose	13. Breakfast Food
4. Cheerfulness	14. Perfume
5. Dignity	15. Coffee
6. Cleanliness	16. Schools
7. Strength	17. Soap
8. Durability	18. Summer Camp
9. Luxury	19. Candy
10. Economy	20. Summer Beverage

Each of the 100 persons who served as subjects was

¹Collins, N., *The Appropriateness of Certain Color Combinations in Advertising*, M. A. Thesis, Columbia University, 1924.



Figure 113: Pattern of the color charts used in the study of appropriateness of color combinations (*See page 453*)

asked to pick, from the 20 color charts, that one which best carried the meaning or atmosphere of the different words in the list, according to these instructions:

Below you will find 20 different words, each word representing either an abstract quality or some definite commodity.

Displayed on the wall you will find 20 charts, each containing a combination of two colors. Each of these charts is designated by a letter.

Begin with the first word in the list and find the color combination that seems to you to best carry the atmosphere or meaning of that word. Mark the letter attached to that color combination in front of the word. Do the same with the second of the words, and so on until each word has been given a letter. *You may use the same color combination as often as you wish.*

In cases where an individual could not decide which combination was most appropriate, a judgment was not insisted upon. Hence some of the columns of judgments do not total 100. The number of judgments omitted for any term suggests therefore the difficulty of making the judgment. In only 2% of all the cases was it found impossible to give a preference.

RELATIVE SUITABILITY OF COLOR PAIRS FOR VARIOUS PURPOSES

The choices of the 100 subjects for each word are shown in Table 89. Since there were approximately 100 judgments for each term, the figures in the table may be thought of as percentages. The last column in the table shows the actual number of judgments for each term. The letter "S" following a color-pair means saturated, and "W" means weak. As there were 20 possible color choices for each word and 100 subjects, if chance alone were operating each color combination would have been chosen 5 times.

From this detailed table another may be constructed showing the most preferred choices. Table 90 gives the first two choices for each term, the one standing first being the most preferred. The numbers in parentheses are taken

directly from Table 89 and represent the number of times the color-pair was chosen. A glance at these figures shows that whatever the basis of choice may be, there is something more than mere chance at work. The first preference is supported by a percentage of judgments ranging from 50% to 11%. Only 7 of them are below 20%, which is four times the amount to be expected from chance alone. The lowest percentage for first preference is in the case of "schools." If the preferences for saturated and weak of the same color-pair be combined, the percentages would in many cases be very much higher. The results might be combined in various other ways. For instance, in the case of "candy" the three combinations having the largest percentages are red and yellow, yellow and orange, and red and orange, and all are from the red end of the spectrum. The most emphatic preference was blue and yellow (S) for "cleanliness." The explanation for this which first suggests itself is frequent use of this color combination for advertising cleaning materials; yet soap shows only 20% for this color-pair and divides about evenly with green and yellow. On the whole, it seems advisable to accept the preferences on their face value without inquiring too minutely into causes.

Interesting comparisons might be made between the choices for the abstract terms and the concrete terms. The correlation method might have been used, by means of which the relationship between the preferences for each term and those for every other term could be computed. However, this was not done, and only one or two cases will be examined. One might expect some resemblance between the preferences for "jewelry" and "luxury" since the former in a sense implies the latter. The same combination, yellow and purple, is most preferred in the two cases, but there is a great scattering of the remaining choices and no color combination stands out clearly for second place for either. For "building material" the first preference is yellow and orange (W) and for "durability" it is blue and orange (W). For "summer beverage" the best combination is yellow and

TABLE 89

THE APPROPRIATENESS OF COLOR COMBINATIONS*

Judgment	Total																			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1. Warmth.....	7	0	4	2	30	2	1	1	0	1	2	0	0	0	0	0	1	0	31	18
2. Coolness.....	3	0	0	1	0	1	0	1	23	26	10	5	17	7	0	2	3	0	1	100
3. Repose.....	1	1	0	5	1	0	0	2	3	10	2	3	0	5	1	12	6	30	2	5
4. Cheerfulness.....	28	0	10	1	2	0	5	0	20	1	3	1	6	0	2	0	12	1	7	100
5. Dignity.....	2	0	3	1	4	3	4	3	0	5	3	1	3	3	13	6	1	14	1	10
6. Cleanliness.....	8	1	1	1	0	0	0	0	50	5	1	1	12	2	4	0	8	0	3	0
7. Strength.....	23	1	11	1	18	2	3	9	0	1	3	3	2	1	3	0	0	3	7	98
8. Durability.....	4	7	7	11	7	7	2	18	3	1	5	6	1	1	2	0	0	9	3	7
9. Luxury.....	1	0	7	1	11	5	11	2	3	4	1	1	0	0	20	2	1	2	10	12
10. Economy.....	2	11	3	3	0	1	2	3	6	11	2	2	9	9	1	4	9	16	1	1
11. Building material.....	10	14	3	7	1	5	1	6	0	4	0	3	2	5	1	1	5	24	4	1
12. Jewelry.....	5	1	2	1	4	3	7	2	9	5	4	1	5	2	18	8	8	1	3	7
13. Breakfast food.....	12	3	1	1	0	1	3	2	7	7	2	2	10	4	4	3	20	4	3	0
14. Perfume.....	2	0	2	2	5	4	7	2	10	9	7	1	5	4	12	13	7	0	5	99
15. Coffee.....	5	19	0	3	3	3	3	12	2	0	0	0	1	1	1	1	1	33	9	5
16. Schools.....	7	8	4	3	1	5	1	5	7	6	5	1	7	5	1	3	7	11	4	0
17. Soap.....	3	0	2	2	1	1	1	0	20	7	7	3	21	7	1	3	13	1	2	97
18. Summer camp.....	19	6	1	1	2	2	4	0	9	4	9	11	30	6	2	3	17	3	3	0
19. Candy.....	3	1	7	1	1	0	4	0	5	1	1	0	2	0	5	6	17	8	11	2
20. Summer beverage.....	6	1	4	2	0	0	1	0	13	11	7	3	25	0	2	3	10	0	5	99

*Collins, N.

green (S), next to this stands blue and yellow (S) and blue and yellow (W). The red end of the spectrum is not represented among the higher choices.

The differences in the reaction of the sexes are slight and for this reason the data for men and women have been combined in our tables. One or two facts may be noted. In the case of "luxury" and "jewelry" the largest percentages were red and purple (W) 18, and red and blue (W) 10, for men, while for women they were yellow and purple (S) 30, and yellow and purple (S) 28. Blue and yellow (S) 22, were most frequently chosen by the women for soap, and green and yellow (W) 26, for the men.

TABLE 90
THE MOST APPROPRIATE COLOR COMBINATIONS*

Judgment	First Preference	Second Preference
1. Warmth	Red and Orange (S) 31	Red and Blue (S) 30
2. Coolness	Blue and Yellow (W) 26	Blue and Yellow (S) 22
3. Repose	Yellow and Orange (W) 30	Blue and Yellow (W) 19
4. Cheerfulness	Red and Yellow (S) 28	Blue and Yellow (S) 20
5. Dignity	Yellow and Orange (W) 14	Yellow and Purple (S) 13
6. Cleanliness	Blue and Yellow (S) 50	Yellow and Green (S) 12
7. Strength	Red and Yellow (S) 23	Red and Blue (S) 18
8. Durability	Blue and Orange (W) 18	Red and Green (W) 11
9. Luxury	Yellow and Purple (S) 20	Red and Purple (S) 12
10. Economy	Yellow and Orange (W) 16	{ Blue and Yellow (W) 11 Red and Yellow (W) 11
11. Building material	Yellow and Orange (W) 24	Red and Yellow (W) 14
12. Jewelry	Yellow and Purple (S) 18	Blue and Yellow (S) 9
13. Breakfast food	Yellow and Orange (S) 20	Yellow and Green (S) 19
14. Perfume	Yellow and Purple (W) 13	Yellow and Purple (S) 12
15. Coffee	Yellow and Orange (W) 33	Red and Yellow (W) 19
16. Schools	Yellow and Orange (W) 11	Red and Yellow (W) 8
17. Soap	Yellow and Green (S) 21	Blue and Yellow (S) 20
18. Summer camp	Yellow and Green (S) 30	Blue and Green (W) 11
19. Candy	Red and Yellow (S) 19	Yellow and Orange (S) 17
20. Summer beverage	Yellow and Green (S) 25	Blue and Yellow (S) 13

*Collins, N.

STABILITY OF JUDGMENTS OF APPROPRIATENESS

The question may now be raised as to the reliability or stability of such judgments as these. Do one's preferences represent anything like a permanent taste, or are these merely a fleeting response? To answer this important question a special group of 20 subjects was tested twice with a time interval varying from 2 to 4 weeks. The rela-

tionship between the two sets of choices may be expressed most conveniently in terms of coefficients of correlation. These correlations are given in Table 91.

TABLE 91
STABILITY OF COLOR PREFERENCES*

1. Warmth	+.95	11. Building material	+.78
2. Coolness	+.82	12. Jewelry	+.82
3. Repose	+.66	13. Breakfast food	+.78
4. Cheerfulness	+.82	14. Perfume	+.58
5. Dignity	+.64	15. Coffee	+.86
6. Cleanliness	+.84	16. Schools	+.26
7. Strength	+.70	17. Soap	+.86
8. Durability	+.58	18. Summer camp	+.56
9. Luxury	+.76	19. Candy	+.84
10. Economy	+.76	20. Summer beverage	+.68

*Collins, N.

The average of these correlations is $+.73$. The lowest correlation is for "schools" which, it will be recalled, gave the least decisive preferences. Most of the other correlations are high and show considerable stability for judgments of this sort.

It will be well to inquire further into the question of appropriateness of colors in order to find, if possible, what characteristics of the color-pairs determine their appropriateness. Three possibilities may be considered in the light of our data; namely:

1. The influence of the single colors in the pairs;
2. The influence of degree of saturation;
3. The influence of the complementary or of the non-complementary character of the combinations.

THE FACTORS THAT DETERMINE APPROPRIATENESS

1. The work of Geissler shows that the components of a pair of colors have much to do with the pleasantness of the pair, and it is likewise possible that the components of a pair may be more potent in appropriateness than the rela-

tion between them. The data given in Table 89 have been reorganized as follows: In the choices for warmth all the preferences for color-pairs containing the color red have been combined into a single group; likewise all the preferences for color-pairs containing orange and each of the other colors have been grouped separately. Since the number of color-pairs containing the various single colors differs. (for instance, there are 8 with a red component, and only 3 with a purple component) the total number of choices is divided by this number, giving the average number of choices per color-pair. These are the figures given in Table 92. The size of the figure indicates the importance of the given color regardless of its associated color. For instance, in regard to warmth, red was the most potent color; in regard to coolness, yellow, blue, and green were about equally potent; in "luxury," "jewelry," and "perfume," purple was the

TABLE 92

INFLUENCE OF SINGLE COLORS IN THE APPROPRIATENESS OF A COLOR-PAIR

JUDGMENT	Red	Orange	Yellow	Purple	Blue	Green
1. Warmth.....	11.8	6.8	0.0	6.0	4.6	1.3
2. Coolness.....	0.9	1.0	8.0	1.0	8.1	6.7
3. Repose.....	1.9	8.0	7.8	6.0	3.8	2.5
4. Cheerfulness.....	6.1	5.0	6.9	1.0	4.0	3.5
5. Dignity.....	4.0	4.6	5.5	9.7	4.3	4.2
6. Cleanliness.....	1.8	2.4	9.0	1.3	7.3	3.0
7. Strength.....	8.8	4.4	3.4	3.3	4.9	3.5
8. Durability.....	6.0	6.4	2.8	1.3	6.1	5.2
9. Luxury.....	7.3	5.2	2.7	12.0	5.0	3.3
10. Economy.....	2.6	6.2	7.8	2.0	3.4	4.5
11. Building material.....	5.6	8.0	6.6	1.0	2.5	3.3
12. Jewelry.....	3.3	4.2	6.3	11.0	4.4	2.7
13. Breakfast food.....	2.6	6.4	8.3	2.3	2.9	4.8
14. Perfume.....	3.0	4.2	0.0	10.0	5.5	3.2
15. Coffee.....	5.3	11.8	0.0	0.7	3.0	0.8
16. Schools.....	4.1	5.6	6.2	1.7	3.9	4.2
17. Soap.....	1.0	3.4	7.9	0.7	5.0	6.2
18. Summer camp.....	2.1	2.4	6.3	1.7	4.8	10.8
19. Candy.....	5.5	9.2	6.9	4.3	2.6	0.8
20. Summer beverage.....	2.3	3.2	7.7	1.7	4.4	7.8
Total.....	86.9	108.6	123.6	78.7	90.5	82.9

important color; in "soap," yellow and green were important colors. The totals at the bottom of the columns are not very significant, but do suggest the relative value of the different colors in this experiment. Yellow has the highest value, and is, therefore, the most important single color, while purple has the lowest value.

2. In order to determine the influence of degree of saturation, the data were reorganized so that all saturated pairs were combined into one group and all weak pairs into another group. The figures in the first two columns of Table 93 show the average value per color-pair and are derived exactly like those in Table 92. In 14 out of the 20 cases the saturated combinations are preferred. It is interesting to note that weak combinations were preferred in the case of "repose," "durability," "economy," "building material," "coffee," and "schools." In all of the cases

TABLE 93

INFLUENCE OF SATURATION AND CONTRAST ON APPROPRIATENESS

Judgment	DEGREE OF SATURATION		Comple- mentary	Non-Com- plementary
	Saturated	Weak		
1. Warmth.....	8.6	0.7	1.3	6.6
2. Coolness.....	5.2	4.8	0.7	6.9
3. Repose.....	2.0	8.4	3.3	5.6
4. Cheerfulness.....	8.7	0.4	3.0	5.9
5. Dignity.....	5.0	4.9	6.0	4.5
6. Cleanliness.....	8.0	1.1	1.2	6.5
7. Strength.....	7.0	2.3	4.5	5.1
8. Durability.....	3.3	6.7	6.7	4.0
9. Luxury.....	7.2	2.1	9.0	3.8
10. Economy.....	3.3	6.5	2.5	5.7
11. Building material.....	2.5	7.7	3.2	5.6
12. Jewelry.....	6.5	2.7	6.3	4.1
13. Breakfast food.....	6.5	3.0	2.3	6.0
14. Perfume.....	6.0	3.7	6.3	4.4
15. Coffee.....	2.4	8.1	3.3	5.6
16. Schools.....	4.1	5.2	2.8	5.4
17. Soap.....	6.9	2.3	1.0	6.5
18. Summer camp.....	6.4	3.3	3.0	5.9
19. Candy.....	6.3	3.3	3.8	5.4
20. Summer beverage.....	6.6	2.9	2.0	6.2
Total.....	112.5	80.1	72.6	109.7

except "coolness," "dignity," and "schools," the difference is rather pronounced in favor of either saturated or weak colors. The sums at the bottom of the columns show that generally the saturated color combinations were preferred.

3. The last two columns of Table 93 show the influence of the contrast character of the pairs. The data were gathered into two groups according to whether the color-pairs were complementary (or nearly so) or non-complementary and regardless of color or degree of saturation. The figures in the table give the average value per color-pair. In only 5 cases out of the 20 were complementary pairs preferred, namely, "dignity," "durability," "luxury," "jewelry," and "perfume." Our figures do not, therefore, bear out the common belief that complementary pairs are usually preferred. The sums at the bottom of the table, as well as the number of cases, show greater preference for non-complementary colors for the specific uses studied in this experiment.

SUMMARY

This rather extensive survey of the problem of the feeling-tone of colors leads to several conclusions which are applicable to advertising. First, single colors do have definite feeling-tone values which are measurable and which are stable and permanent in the individual. Second, there is agreement among the members of samples of the population as to the relative pleasantness of colors. Third, colors have meanings or atmosphere which should be utilized wherever possible. Fourth, combinations of color have feeling-tones which are stable and measurable, and which depend to a considerable degree upon the feeling values of the component colors. Fifth, certain colors and color combinations are more appropriate than others for a given purpose, and this appropriateness is fairly stable and can be measured. Sixth, the appropriateness of a color or combination of colors for a given purpose does not depend, entirely at least, upon the pleasantness of the colors when con-

sidered apart from that purpose, but on the contrary is a function of the purpose. For instance, yellow, which is the least liked of the colors, when viewed merely as a color, is the one which for our set of uses has seemed the most appropriate of all. This fact makes it necessary to measure appropriateness for specific purposes, instead of depending upon the application of the general laws of the esthetics of color.

XVIII

THE FEELING-TONE OF LANGUAGE

Extent to which advertising copy is read. Advertising copy varies in effectiveness. The feeling-tone of letters. The feeling-tone of combinations of letters. Relative pleasantness of nonsense syllables. Feeling-tone of imitative words. Feeling-tone acquired through association. Unpleasant feeling-tone from difficult pronunciation. Defective memory due to difficult pronunciation. Appropriateness of names. Feeling-tone of phrases and sentences. Feeling-tone due to rhythm. Summary.

THE general tendency of the present day to get information along the lines of least resistance has been clearly indicated in the chapter on the Picture (Chapter XI). The picture is returning to the function it performed before the development of written symbols. Today the old Chinese proverb, "A picture is worth ten thousand words," seems as true as ever. Not only has much of the modern advertisement been reduced to picture form but even those words which are used must be adapted for absorption along the lines of least resistance. Ideas must be condensed into headlines and single sentences because of the belief that only such will be read. More than that, the old established sentence structure must be reversed so that the important idea shall come at the beginning rather than at the end of the sentence—perhaps because one can expect only the first part of even a single sentence to be read. Such views as these, which one finds frequently expressed in advertising literature, raise the question as to the value of copy and how it may reach its greatest effectiveness. There are, it should be observed, certain forms of modern advertising, especially those which simulate news items, that still use copy without illustration or with relatively little illustration. The value of such a departure from the general trend remains to be determined.

THE EXTENT TO WHICH ADVERTISING COPY IS READ

There is one experimental study whose purpose was to find the degree to which advertising copy is noticed and read. The results of this study are worth noting. Strong¹ tested 148 people (95 men and 53 women) for their knowledge of 25 full-page advertisements which had appeared during the preceding month in two magazines. In each of these 25 advertisements considerable space was devoted to copy. A form of the recognition test was used to determine the following:

1. Recognition of the advertisement as having been seen before;
2. Recognition of the first paragraph of the copy as having been seen before;
3. Recognition of the last paragraph of the copy as having been seen before;
4. Identification of the product in terms of the trade name (or otherwise) from the first or last paragraph.

In measuring recognition of copy, the first or last paragraph of each advertisement was typewritten and presented to the subject on a separate sheet.

Table 94 gives the results of this test in terms of the percentage of the whole group of subjects who recognized or identified in the four ways indicated. Thus, in the case of advertisement number 1, 39% recognized the advertisement; 4% recognized the first paragraph when it was presented alone; 6% recognized the last paragraph when presented alone; 5% identified the trade name from the first paragraph; and 7% identified the trade name from the last paragraph.

From the averages given at the bottom of the table it appears that while 18.2% of the people recognized the advertisement as a whole, 9% recognized the first paragraph and 7.4% recognized the last paragraph. Consequently,

¹Strong, E. K., *Bulletin of the Association of National Advertisers*, Number 9.

we may say that of all the persons who recognized the advertisement as a whole, 49% recognized the first paragraph and 41% recognized the last paragraph. These figures seem very high even to one who is optimistic about the value of copy. The investigator believed that they should be discounted about 10%, because the technique of the experiment did not eliminate the factor of guessing. (The procedure of the Recognition test will be described in detail in Chapter XX.) Even though they were to be reduced by as

TABLE 94
THE EFFECTIVENESS OF COPY*

ADVERTISEMENT		FIRST PARAGRAPH		LAST PARAGRAPH	
Number	Recognition	Recognition	Identification	Recognition	Identification
1	39	4	5	6	7
2	33	23	23	23	22
3	32	9	10	3	2
4	32	19	16	10	3
5	29	9	10	13	8
6	29	13	1	4	4
7	26	13	8	8	8
8	24	16	5	9	4
9	24	15	13	3	1
10	22	9	3	5	3
11	22	10	0	14	0
12	20	8	7	9	6
13	20	16	14	4	5
14	14	2	0	3	0
15	14	5	0	3	1
16	11	2	3	10	3
17	10	11	0	10	10
18	10	2	0	7	3
19	9	8	0	4	3
20	8	5	0	9	0
21	7	3	0	9	0
22	7	5	0	10	0
23	5	6	0	0	0
24	4	2	0	2	0
25	3	10	0	7	0
Average	18.2	9.0	4.1	7.4	3.7

*Strong.

much as one-half, the value of copy would still be great. One other factor should be taken into account. The experiment was performed about 10 years ago when copy, doubtless, competed on more nearly even terms with illustration. To-day the illustration, color, and other decorative devices have advanced to such a stage that it is quite probable that a contemporary investigator would find a much greater discrepancy between recognition of the advertisement and recognition of the copy.

ADVERTISING COPY VARIES IN EFFECTIVENESS

A very important fact to notice is the difference among the various advertisements both in respect to the recognition of the copy and the identification of the product by means of the copy. Some advertisements were very good in both respects, for instance, number 2; others, having a high recognition value for the advertisement itself, fell low as far as recognition and identification of copy are concerned, as, for example, number 3; still others, such as number 8, had a good recognition value for the advertisement and relatively poor recognition for copy, and very poor identification value. The best copy would, of course, be that which was not only remembered, but remembered in such a way as to lead directly to the product advertised. An analysis of the good and poor copy in this experiment showed significant differences. The good copy tended to be specific in character, while the poor tended to be of the general descriptive sort. Other differences also appeared.

Since copy may be good or poor in the respects indicated, and indeed in many other respects, a careful analysis of the conditions of good copy is essential for effective advertising. It is not our purpose to undertake this task in the present chapter, but to consider only one aspect of it, namely, the factors in copy upon which a pleasant feeling-tone depends.¹

¹For a systematic treatment of the question of copy, the reader is referred to Hotchkiss, G. B., *Advertising Copy*, 1924.

THE FEELING-TONE OF LETTERS

The pleasantness or unpleasantness of letter sounds has been a matter of interest for centuries and a number of theories have been proposed to account for it. For example, one theory connects the pleasantness of certain letters and the unpleasantness of others with the taste sensations aroused in the parts of the vocal mechanism activated in pronouncing them. For instance, "the harsher forms such as 'G' involve the back of the tongue and consequently are connected with the sensation of bitterness, assuming an unpleasant flavor." Another theory connects the feeling-tone of letters with the emotional responses made by the same muscular mechanisms as are activated in sounding the letters. Thus, "letters involving extensive movements of the uvula or throat, such as 'K,' 'G,' and 'Q,' are utilizing the same muscles which are active in sudden emotion, particularly despair. The sonants 'B,' 'D,' 'G,' and 'V,' which involve a vibrating larynx as well as throat movements, may be specially correlated with sustained excitement. The 'L,' 'R,' and 'S' forms seem to include front of mouth movements, and probably a tendency to widen the mouth, and may thus be correlated with the emotions of love, hence engender pleasure. The 'S' form, however, is considered quite unpleasant by Dionysius on account of the accompanying hissing sound, which should remind us that auditory imagery must, of course, complicate any effort to correlate feeling quality with the articulation peculiar to language forms."

One meets the same difficulty here in determining causes as in all the other cases where feeling-tone is involved. It is sufficient to call attention to the fact that the various letters of the alphabet are generally believed to vary in pleasantness and that this feeling-tone can be measured by one or more of the methods of psychological measurement already described. A knowledge of the feeling-tone of single letters has at present no practical application to advertising.

THE FEELING-TONE OF COMBINATIONS OF LETTERS

A more vital question for the advertiser concerns the feeling quality of combinations of letters. This is especially true since in recent years so many new words have been coined as trade names for new products. If combinations of letters do produce effects varying in pleasantness, it would seem expedient, in coining a new word, to take this matter into account. Following is a short list of such newly coined words. Any reader can doubtless add others.

Rem	Hag	Hekake
Zap	Adro	Perfo
Lux	Gredag	Bovax
Rit	Capco	Lemco
Pep	Idipo	Ipana
Fab	Trix	Nibco
Zet	Loju	Vauv
Pando	Albo	Nujol
Zim	Vita	Tycos
Tirro	Vim	Kodak
Raz	Zuzu	Iridor
Ken	Nabisco	Ateco
Duz	Sal-lac	Ampico

Many such "non-sense" words can be identified as derivatives from Latin and Greek, but to the general consumer they are meaningless until a meaning is developed through advertising.

Certain other coined words indicate their meaning more or less clearly at once. A few samples of this type follow:

Keeno	Servespoon	Glovnit
Rapinwax	Undahose	Almomeal
Drano	Skimit	Vitogro

A suggestive experiment was performed by Jones¹ in which he measured the feeling-tone of 50 non-sense syllables, each comprising two consonants with a vowel between. All the vowels but "i" were used. His method might be applied

¹Jones, E. S., "Effect of Letters and Syllables in Publicity," *Journal of Applied Psychology*, 1922, VI, pp. 198 ff.

more extensively on a great variety of material. Non-sense syllables were employed in order to escape the influence of meanings accumulated in the course of an individual's experience and to limit the feeling-tones as far as possible to those due to the mere combinations of letter sounds. His method is described as follows: "Our method was to make up a list of 50 syllables and present them in pairs to the subjects. Each syllable occurred twice, each time with a different mate, once the first of a pair and the other time the last. This presumed to eliminate differences due to position, and to compensate somewhat for the influence of specific syllables or sounds on others. A subject was asked to force a distinction between the two syllables shown, and to grade each differently on a scale of 3 points. That is, it was the 'paired associates method,' allowing at the same time for some grading, so that if the two syllables were markedly different in affective quality, one might be grade '3' and the other '1.' Each subject was asked to think of '3' as significantly pleasing and well liked; of '2' as above average in affective tone—at least not disliked; and of '1' as below average, or positively distasteful."

RELATIVE PLEASANTNESS OF NON-SENSE SYLLABLES

A much more effective method would have been to use the strict method of paired comparisons, as recommended in Chapter V for affective judgments. This method, it will be recalled, would require that each syllable of the 50 be compared directly with each other one, involving 1,225 comparisons on the part of each judge. Such a task would be extremely laborious. The method actually used is a compromise involving a comparison of each syllable with only two others, plus a rating on a scale of three feeling values. On the basis of these ratings from 15 judges, the syllables could be arranged in an order of pleasantness. In Table 95 these syllables are presented in three groups: "most pleasant," "moderately pleasant," and "least pleasant."

Within each group the syllables are arranged according to their degree of pleasantness.

TABLE 95
THE FEELING-TONE OF SYLLABLES*

Most Pleasant	Moderately Pleasant	Least Pleasant
Nep	Dav	Bod
Lon	Lof	Seg
Dur	Teg	Sev
Paz	Keb	Kuv
Des	Bep	Tas
Zef	Gof	Kaz
Tor	Sef	Ruv
Dos	Teb	Sab
Reg	Lug	Rav
Ros	Ret	Geb
Ber	Mul	Vab
Tur	Pev	Vud
Tul	Sud	Ged
Ket	Zud	Gur
Tov	Reb	Gak
	Dap	
	Kop	
	Bov	
	Sof	
	Kut	

*Jones.

The author states that in the "moderately pleasant" group the syllables differ little, so that the distance between the first and last syllables of the first group or last group is greater than the distance between the last of the first group and the first of the last group.

From an examination of the order of these syllables, the investigator concludes that "forms involving the letters 'T,' 'D,' 'L,' and 'R' tend to be pleasurable. There is not enough evidence for 'N' and many other forms. Forms involving 'G' and 'V,' and to a less extent 'K' and 'S,' tend to be unpleasurable. It is interesting that of the two labial occlusives 'P' and 'B,' the latter seems to stand less favor-

ably, perhaps because it involves more palate movement." The beginning consonant of a syllable has more influence on the feeling-tone of the syllable than either the vowel or the final consonant. Interesting comparisons may be made between this list of non-sense syllables and the list of trade names given above. For example, "Fab" resembles most nearly "Vab," which stands fifth from the bottom of the least pleasing list.

Some information was obtained concerning the feeling-tone of a word made up of syllable components with known feeling-tones. It was found that in general the feeling-tone of the combination can be predicted from that of the components, and that the first syllable has more influence than the second. The word "Torav," a combination of "Tor" and "Rav," was pleasant although "Rav" was found to be unpleasant when taken alone. Likewise "Desev," composed of "Des" and "Sev," was pleasant although the second syllable when taken alone was unpleasant. It appears possible that a compound word may be moderately agreeable even though made up of two syllables of a low degree of pleasantness, as, for example, "Ravab."

FEELING-TONE OF IMITATIVE WORDS

Many words seem to carry their meaning by way of their sound or their appearance; they are sometimes called imitative words. Most exclamations are of this sort; for instance, "ah," "oh," "ouch," and so forth. Such words as hiss, rattle, clatter, sizzle, patter, sputter, giggle, chatter, are imitative in this sense. When the words are appropriately used, that is, when this imitative meaning is appropriate, the feeling-tone may be pleasant, but when inappropriately used the words may produce a very unpleasant effect. The feeling-tone of most words of this sort arises from their relation to their setting. In the following passage, taken from an automobile advertisement, many of these imitative words, shriek, clang, bang, and rack, are made to

perform a useful function. By their harsh quality they serve to emphasize the restful vistas, babbling brooks, and songs of birds.

In a few minutes it transports you from the close and sultry atmosphere of the city to the pure, invigorating air of the country.

The shriek of factory whistles, the clang and bang of trolleys, and the multitude of nerve-racking sounds and sights are left behind, and replaced by restful vistas of green fields, babbling brooks, songs of birds, and so forth.

FEELING-TONE ACQUIRED THROUGH ASSOCIATION

Meaningful words are very likely to acquire a feeling-tone, pleasant or unpleasant, by way of the ideas that become associated with them. If a word, spoken or seen, arouses an idea that is unpleasant for any reason, this unpleasantness will spread from the idea to the word itself. This results from the fact, mentioned earlier, that feelings are vague and not definitely localized. One of the most interesting cases of feeling-tone aroused through associated ideas is reported in Chapter XXII. The word "Radior," used as a trade name for toilet preparations, was found to arouse unpleasant ideas in the great majority of the persons examined. These ideas had to do with radium which was immediately suggested by the word "Radior." Radium called up images and memories of cancer, poison, danger, hospitals, operations, and the like, all most inappropriate mental content to be associated with a toilet preparation. The method of discovering such associated ideas is demonstrated in Chapter XX. Hotchkiss¹ gives an interesting list of word-families, each of which carries a certain feeling-tone, due to the sounds of the words themselves or due to the meanings which certain members of the family have acquired:

Any word acquires suggestion from the meaning of other words which it resembles, just as the reputation of a person is affected

¹Hotchkiss, G. B., *Advertising Copy*, 1924.

by the character of his brothers. And, as in families, a single black sheep often does more harm than a dozen respectable citizens can redeem.

Words beginning with "Sn," such as sneer, sniff, snip, snake, sneak, snare, snore, snob, snub, snide, snipe, snoop, snitch, have an unpleasant feeling-tone because the sound itself is unpleasant—to pronounce them involves "a distortion of the lips and nose that is unpleasant to see or to feel—and incidentally is a kind of contemptuous gesture." And some of the words like snipe and snide have a very unpleasant meaning.

There is the unpleasant "gr" family, with greed, grab, grate, grasp, grip, grim, gross, groan, grudge, graft, grub, grind. The "sq" family is equally unpleasant. Among them are squint, squirt, squirm, squat, squeeze, squib, squeak, squab. Other unpleasant word-families are those ending in "um" like glum, grum, scum, slum, gum, rum, numb; the "ump" family, such as bump, dump, hump, lump, rump, slump; the "imp" family, such as skimp, scrimp, crimp, limp, pimp, shrimp; and the "unk" family such as bunk, hunk, flunk, punk, junk.

The unpleasant feelings aroused directly by the letter or word sounds are likely to be common to all people and should be avoided in coining new words for trade names or for similar purposes. The same may be said of words which have acquired a meaning universal enough to be crystallized into a definition. For instance, such a word as "Hag," defined as "a repulsive, vicious, or malicious old woman," begins its career as a trade name under the handicap of an unpleasant feeling-tone. The trade name "Figprune" has an unpleasant feeling-tone due in part to the unpleasantness of the combination of sounds and probably in part to the slang meaning which the word "prune" has acquired in recent years, but which is not yet fixed in a formal definition.

The range of choice of words for one who writes copy in English and the consequent necessity for picking the one that exactly fits the case, in order to avoid unpleasant feeling reactions, is well illustrated by the following paragraph from Hotchkiss: "We can speak of a *bunch* of flowers, but a bunch of girls is a *bevy*; a bevy of elephants is a *herd*; a herd of thieves is a *gang*; a gang of angels is a *host*; a host of wolves is a *pack*; a pack of geese is a *flock*; a flock of

acrobats is a *troupe*; a troupe of bees is a *swarm*; a swarm of pigs is a *drove*; a drove of horsemen is a *troop*; a troop of fish is a *school*; a school of partridges is a *covey*; a covey of police is a *squad*; a squad of editors is a *staff*; a staff of salesmen is a *crew*."

UNPLEASANT FEELING-TONE FROM DIFFICULT PRONUNCIATION

Words that are difficult to pronounce, when used as names for commodities, are likely to produce unpleasant feelings which may be reflected upon the product itself. This is especially true in the case of foreign words. People generally are sensitive about making mistakes in pronunciation, and some means will often be found to avoid pronouncing "uncertain" words. The means chosen may be the purchase of some other more easily named product. Many names have such unusual pronunciations that the correct one has to be indicated by phonetic spelling, as in the following cases:

<i>Violet</i>	<i>Sempre Giovine</i>	<i>Bengué</i>
(Violay)	(Sempray Jo-ve-nay)	(Ben-Gay)

Take for example, the trade name "Bon Ami." To the average purchaser of this household product the French words carry no meaning and at the same time offer difficulty in pronunciation. "Mollé" is a similar case. The word itself means nothing to a large percentage of people and its pronunciation is uncertain. Still another example of the same sort is "DjerKiss."

DEFECTIVE MEMORY DUE TO DIFFICULT PRONUNCIATION

There is another aspect to this matter of difficult pronunciation which deserves attention. Not only is the immediate feeling-tone likely to be unpleasant and in extreme cases actual embarrassment be created, but the memory for the name may be inhibited or at least difficult to learn. It

is an essential requirement in learning that a clear impression be obtained of the thing to be learned. Seeing a word, getting the "feel" from pronouncing it, and hearing oneself pronounce it are three very important steps of the learning process. If a word cannot be pronounced or if its pronunciation is uncertain, the last two factors are interfered with. To see, but not to pronounce and hear, produces a limited sort of memory which may be very inadequate for effective advertising. It is a seeing memory, which will enable a person to recognize the name when he sees it, but not to recall it when he wishes to buy the product.

A very striking example of the specialization of memory is to be found in the case of persons who are accustomed to read foreign literature in the original but who have never learned to pronounce the language. Years of such sight learning will not enable one to speak the language or to understand or recognize it when spoken.

Such facts as these should carry a valuable lesson to the person who is coining new advertising words and who has an almost unlimited range of material from which to make his choice.

Difficulty or uncertainty of pronunciation with its attendant unpleasant feeling reaction is not always the result of adopting foreign words. Many of the newly coined words offer like difficulties although there is less excuse in such cases. Even such a word as "Socony," well known as it is today, has a variety of pronunciations, none of which can be called right and the others wrong. Other words of a similar kind are "Sunoco," "Coeterine," "Apolonis."

APPROPRIATENESS OF NAMES

Another problem that is suggested by the facts thus far presented has to do with the appropriateness of certain syllables and words, for specific purposes, such as a trade name for some product. Just as in the case of the feeling-tone of color where yellow stands very low in pleasantness

compared with the other colors considered merely as colors and not as colored objects, but stands relatively high in appropriateness for representing "cleanliness," so syllables or words may change considerably in feeling-tone according to the use to which they are put. For example, the trade name "Radior," which may be inappropriate for toilet preparations, may be entirely appropriate and effective as a name for an electric heater or an alarm clock.

Starch reports an experiment in which he measured the feeling quality of a series of 21 names which had been suggested for a new food product. First the names were evaluated irrespective of any particular product, and second, they were evaluated as names for a particular product. His only statement concerning these two tests is that there was no essential difference between the two sets of results, hence the data were combined. As these names were chosen as the best from a total of 8,000 submitted in a name contest, it is quite likely that all of them were appropriate for the purpose. Hence, no great difference between the tests could be expected.

A trivial or silly name should not be given to a product that should have an atmosphere of dignity. Probably there is no case where a trivial or silly name is entirely justified, although the effect would certainly be least serious in the case of "chewing gum," "lolly pops," "licorice sticks," and the like, that are intended to appeal primarily to children. Such words as "Zuzu," "Tootsie Roll," "Wow," and "Fizzo," have a "Mother Goose" atmosphere about them that makes them inappropriate for more dignified use. "Zip," as the name for a knife sharpener priced at \$1, probably lies somewhere near the border line between the appropriate and the inappropriate.

FEELING-TONE OF PHRASES AND SENTENCES

Words when combined into phrases and sentences may acquire a new feeling-tone pleasant or unpleasant. This

feeling-tone may be independent of appropriateness or dependent upon it. For example, any sentence structure wherever used that impedes smooth reading or makes understanding difficult will produce an unpleasant effect. Illustrations of sentence structure that err in both these respects were given in connection with the discussion of Comprehension (Chapter XIII) and need not be repeated here. Feelings may also be aroused through the appropriateness or lack of appropriateness of the style for a given purpose. A slangy construction which may be acceptable in the copy for a commodity like chewing gum or cigarettes might be entirely out of place in the copy for silverware or high-priced automobiles. Compare the following extracts taken from advertisements for silverware and tobacco respectively. The former has an atmosphere of dignity quite appropriate for its purpose, while the latter is undignified in form and contents. Imagine the effect of interchanging the two styles!

There is no surer criterion of the happiness which one of these lovely Community Gift Pieces will bring than that brief moment of hesitation when you are tempted to keep it for yourself.

Gee—how those Prince Alberteers root for the national joy smoke! Meet 'em in the moose woods, down main street, around the corner, or on the night boat! All one brand of right-arm enthusiasm that fairly zips out of the tobacco itself.

Equally inappropriate is the mixture of styles within the same piece of copy. Even when done for the sake of novelty, its value would be questionable. The two paragraphs which follow are quoted from Hotchkiss and illustrate the point. In each case the first sentence differs strikingly in style from the second sentence.

Good paper casts an aura of refinement about the name it bears. Its very touch and feel bespeak quality. It can march into any office or home and be dead sure of a warm welcome.

These little cigars are made of honest-to-goodness Havana tobacco, the kind you are used to smoking in a two-bit perfecto. No wonder they have received the encomiums of discriminating smokers.

FEELING-TONE DUE TO RHYTHM

Feelings may be engendered by means of rhythm, more or less independent of the words used, although a good piece of copy gets its effect from the appropriateness of both rhythm and words. The two passages which follow, and which are quoted from Hotchkiss, differ most in respect to their rhythmical movement. The first one by its short words, arranged in short sentences, has an appropriate snap and vigor about it.

Call for the Jolly Eskimo kid. Uncap a bottle of his gingery old drink. Fill a glass brimful! Take a good long drink.

The second passage has a slower rhythm, with its longer phrases and sentences. It creates a languorous and dreamy atmosphere quite in contrast to the first passage.

Call back again those careless, carefree, childhood days—with Libby's Apple Butter. . . . You'll linger long over the fragrance of its Orient-grown spices, its tang of sparkling cider, its subtle cane sugar sweetness.

SUMMARY

The material presented in this chapter may be summed up in a few words. Letters have their feeling-tone, mildly pleasant, or mildly unpleasant. Syllables and words likewise have their feeling-tone, analyzable in part but not entirely into that of their letter components. Phrases, sentences, and paragraphs have their characteristic feeling-tone, engendered in part by letters, words, and groups of words and in part by their smoothness, rhythm, and ease of comprehension. Finally, each one of these language units, complex or simple, may acquire a feeling-tone according to whether it is appropriate or inappropriate for the setting. In the midst of such a complex of determining factors, rules become inadequate. It is difficult to tell, by applying rules to any piece of copy, what the effect on the reader will be. Specimens taken from modern advertising show that this is

the case. The simplest and safest procedure would seem to be, therefore, to adopt some means of measuring the effect upon a sampling of the consumer population wherever feeling-tone is in question, whether it be feeling-tone of trade name, headline, or copy. Methods of measurement adequate for the purpose have been described in Chapter V and elsewhere in this book.

XIX

MEMORY AND ASSOCIATION IN ADVERTISING

The function of memory in advertising. Memory depends upon association. Associations are established through control of attention. Associations should be correctly established. Mechanical aids to the formation of associations. Spatial association not essential. Relative strength of associations. Law of exercise. Optimal interval between repetitions. Law of effect. Law of primacy. Law of recency. Law of intensity or vividness. Memory depends on quantity of material to be learned. Law of interest.

MEMORY plays a vital part in all advertising. In our survey of attention, for example, it was found that the reaction to advertising in the form of a purchase never follows immediately upon the experience of the advertising. Some interval of time always elapses during which the ideas aroused by an advertisement have "dropped out" of the mind. This interval may be short or long; indeed, it may vary between the extremes of a few seconds and years. It is the *retention* of an experience over such an interval of time that constitutes the essential character of memory. Definitions of memory vary considerably from one authority to another, but upon this one point there is general agreement. As soon as retention is accepted as the "core" of memory, a number of important questions arise.

For example, one may inquire:

1. Are the effects of some advertisements retained better than others, and if so, on what does the retention of an advertisement depend?
2. How are the experiences of an advertisement revived or reproduced after the interval during which they have been "out of the mind?"
3. If some experiences are revived more readily and more effectively than others, on what do the differences depend?

4. How are the experiences of an advertisement identified after revival?
5. Can anything be done to guarantee such identification?

These five questions bring us face to face with the most important problems of memory, namely, the problem of "learning," or fixing an impression, the problem of "recall," or reviving an impression, and the problem of "recognition," or identification of the revived impression. If any one of these three aspects of memory could be said to be more important than another in advertising, it would, doubtless, be recall. For what the advertiser most wants to accomplish by his advertising is this: When a need for a given commodity arises in the mind of a consumer, the advertiser desires that his particular brand of that commodity shall be recalled rather than the brand of a competitor. As there are today numerous brands of the commonly used articles that really differ little in quality, it is largely a matter of obeying the laws of recall that determines which particular brand shall be bought. As far as our present knowledge of memory processes is concerned, we may assume that learning, recall, and recognition all depend upon the same fundamental conditions, hence our treatment of the problem for practical purposes will be greatly simplified. Any differences among these three processes that are important may be considered later.

MEMORY DEPENDS UPON ASSOCIATION

The one primary condition upon which all memory, in whatever aspect we consider it, depends, is "association." The so-called law of association may be stated about as follows: If two ideas¹ have been associated in the mind at any time and if at a later time one of them is again present in the mind, the other will tend to come into the mind also. Applying this definition in the case of the different aspects

¹The terms "idea" and "mind" are here used in their popular meaning for the sake of simplicity.

of memory, one may say that learning consists simply in the formation or establishing of such connections or associations between ideas; that retention is simply the name for the existence of these connections (in that portion of the nervous system with which our mental reactions are correlated); that recall consists in the functioning of these connections so that the presence of one of the ideas brings the other; and that recognition is a special case of such functioning. Consequently our attention may be directed to some of the characteristics of association.

If an advertiser demands that the name of his particular soap shall come to mind when the need for such an article is felt, it would seem that the only necessary condition to be fulfilled is that these two ideas—namely, the need for soap, and the trade name of the particular brand of soap—shall have been associated in the mind previously. But this is only a part of the story, as may be seen by referring again to our definition of association. All that such a previous association will guarantee is that the second idea, the particular trade name, shall *tend* to come to mind. There may have been many trade names associated with the idea of soap in the past, and the law of association would imply that they too should come to mind. Although they cannot all come to mind at once, they may all *tend* to come. The result will be either that one will actually come to mind while all the others will be crowded out for the moment, or else that each will so effectively block all others that none will come to mind. Such a state of inhibition rarely occurs outside of the laboratory to a degree sufficient to become noticeable to the ordinary observer. It is quite likely, however, that many common slips and lapses of memory can be traced to just such inhibitions. The advertiser is, therefore, faced with two questions, namely:

1. How may two ideas be associated in the mind?
2. How may he guarantee that his idea (trade name) shall be the one out of all possible ones that shall come to mind?

ASSOCIATIONS ARE ESTABLISHED THROUGH CONTROL
OF ATTENTION

In order that two ideas may be associated in the mind they must be attended to together or some relationship between them must be noted. By referring to the characteristics of attention described in Chapter VII it becomes evident that the casual reader of advertising cannot be depended upon voluntarily to attend to two objects together or to seek out some relation between them. The advertiser must at least make the conditions favorable for such attention. A casual glance through contemporary advertising will disclose instances where little or nothing is done in the preparation of the advertisement to attain this end.

One condition which makes it probable that two things shall be attended to together is putting them together in space. However, it must be distinctly remembered that close relation in space does not guarantee association in the mind, but merely increases the chances of such association. That mere juxtaposition in space is not enough is easily demonstrated by experiment. If one is required to learn a series of pairs of non-sense words, such as:

taz seg, zut vis, ron wok, mer bip, koj yad

so that when the experimenter later presents the first word of the first pair, the subject shall respond by naming the second word of the first pair, and so on throughout the list, he may learn them perfectly without a great deal of labor, but if now the experimenter presents the *second member* of the *first* pair and asks for the *first* member of the *second* pair, there is very little chance that the subject will be able to recall it. Now as far as spatial relations are concerned, the first word of the second pair is just as near the second word of the first pair as the two members of the first pair are to each other. The only difference is to be found in the nature of the instructions to the subject, namely, that he shall connect the second of a pair always with the first of a pair. His

attention has been *guided* by the experimenter. Now, if the instructions had been to learn the words so that when the first word of the second pair was presented by the experimenter, the subject should respond with the second member of the first pair, that form of association could have been established just as readily; and the association from the first to the second member of each pair would not then have become established.

Thus it appears that the direction of attention and not spatial relations determined the association. At the same time, in the advertising situation at least, it is easier to employ the devices necessary to get two things attended to together when they are close together than when they are widely separated in space.

ASSOCIATIONS SHOULD BE CORRECTLY ESTABLISHED

What is perhaps even more striking is the fact that if the associations have been formed as just described from the first member of each pair to the second member of each pair, so that the first always calls to mind the second, the second will not bring to mind the first. That is to say, if the associations have been formed in the forward direction, they will not work in the reverse direction. There are many every-day experiences which support this statement. For example, have some one recite the alphabet from "a" to "z" as rapidly as possible and record the time required to do this; it will be but a few seconds. Then record the time required to repeat the alphabet backward. The time will be very much longer. More interesting than the slowness of the responses, however, is the way in which the letters are recalled. In most cases the subject must start forward, as "x, y, z," then quickly repeat these backwards, then "u, v, w," and recite these backwards, and so on until "a" is reached. That is, one has to make use of the forward associations in reciting backward things that are as well known even as the letters of the alphabet. Every letter in the al-

phabet is well known; it is merely the connections between them that are weak or missing.

Another interesting demonstration of the importance of attention in forming associations is found in the learning of a series of non-sense words so that they can be recited without error from beginning to end rather than in pairs as described above. If a list, such as that given on page 484, is learned so that it can be recited correctly, it will be partly forgotten in 24 hours. If now the list is presented to be relearned, it will take about two-thirds of the time originally required to learn it. That is, there was a saving of only one-third of the original time from having learned it before. Now if the words are presented in reverse order for relearning, there will be a saving of only about one-eighth of the original time. The mere reversal of the list, with all the words remaining the same, reduces the time saved by more than 20%. If the words are presented in random order for relearning there is a saving of only one-half of 1%. This last figure means that to know a series of items of any sort without forming associations among them constitutes only about one-half of 1% of the learning of them.

These facts may be applied directly to advertising. If two ideas are presented in an advertisement (let us say the need for something and the means of satisfying it) there must be something about the way they are presented to make them be attended to together. And further, there must be something about the way they are presented to make them become associated in the direction in which they are later to function, or to make them become associated in both directions.

MECHANICAL AIDS TO FORMATION OF ASSOCIATIONS

One of the simplest ways of fulfilling these two requirements is by means of some mechanical device that will control the direction of attention. Such devices were presented in Chapter VII. In Figure 35, both the illustration

and the headline present one idea, namely, "the home you want." The other idea to be associated with the first is "Home Owners Service Institute." The first idea is the need or desire and the second is the means of satisfying it. The association between the two is established by means of the heavy arrow which carries the attention from the first to the second idea. In Figure 36, the first idea is "need for a cure for a radiator that won't get hot," and the second is the picture of the object that will cure the trouble. The two are connected by the line which carries the attention from first to second. In these two cases the association is established and in the right direction, for as stated at the beginning of the chapter, the ultimate aim of the advertiser is to have his product come to mind when a need or a desire arises that his product will satisfy.

It just happens that the illustrations thus far given have a spatial arrangement of the two ideas that might in itself make for association in the right direction, that is, the need is always presented first and then the means of satisfying it. And the statement is sometimes made that, in advertising, this mere spatial arrangement is essential. For example, according to this view the advertisement reproduced in Figure 114 would be poor because the name of the commodity is featured at the top of the page and only farther down do we find the needs that the device will satisfy. Hence it would seem that the association would be established in the wrong direction, from the particular trade-named article to the need, rather than from the need to the article. Now if the associative connection were formed *only* in that direction, it would follow that when the desire for easily attached chains arose, "Off'n 'On Tire Chains" would not be remembered. On the other hand, when the name of those chains happened to be called to mind one would remember that they were easily attached and detached. This latter association would be of little use to the advertiser who created it in the mind of the consumer as it might not lead to the purchase of his product.

OFF'N'ON TIRE CHAINS

*Off without effort—
On without effort—
No tools required—*

These are the advantages of OFF'N'ON Tire Chains and OFF'N'ON Cross Links.

The OFF'N'ON exclusive features make possible the ease with which the chains and the links are attached or detached.



The POSITIVE LOCK

This patented lever lock makes it easy to put them on and to take them off. Its lever lock with the two notches takes up slack; thus saves wear on tires and chains alike. No more lost chains. No more loose chains.

The SLIP-ON LINK

This patented slip-on link makes it easy to take off the old cross chain and put on a new one.

Pyrene
MANUFACTURING COMPANY
Makes Safety Certain
NEWARK, NEW JERSEY

Figure 114: This advertisement establishes associations in the right manner through the control of attention. (See page 487)

SPATIAL ASSOCIATION NOT ESSENTIAL

Let us examine, however, whether mere spatial relation is the determining factor in this case. The attention appears to be first attracted to the two small cuts with their intense black background, and with the human hands in action. These pictures give the feeling of ease of operation of the lock and link. From them the attention moves upward to the name which is featured at the top of the page. The arrangement of the text may help somewhat in carrying the eye upward. Therefore, if this analysis of the attention process is correct, the association will be formed in the right direction—that is, from the desire for an easy-locking mechanism to its name—in spite of the fact that arrangement in space would facilitate the opposite direction of association. This erroneous impression of the great influence of spatial arrangement in establishing associations in advertising comes from the idea that one always looks first at the top of a page and moves downward as in reading. However, it was shown in Chapter X, dealing with the influence of position, that the “picture seeing” habit with its tendency to fixate toward the middle of the page may be just as potent as the reading habit. A much more important factor than the reading habit in determining the course of attention is that of the relative attention value of the different parts of the advertisement.

Figure 115 contains three advertisements; the second one features the device “Automatic Electric Fireless Cooker” and prints the needs that it satisfies in small and obscure type. In so far as the whole story about this device is not carried in its name the advertisement is poorly constructed. Contrast with this the third one which features a need and shows how that need may be satisfied in the copy. To the extent that one has a need or desire corresponding to that illustrated he will read the copy for further information. The first advertisement for “Ateco” establishes the proper association much more effectively than the second.

Since mere spatial position is found to be unimportant in determining associations, while direction of attention is found to be the fundamental factor, it follows that objects may be associated that have never been together in space. For instance, two objects that resemble each other may become associated so that the one will call to mind the other, if attention has been directed to the resemblance between them. In the same manner two objects which contrast with one another may become associated if attention has been directed to this contrasting relationship. Thus one may call to mind something of the greatness of Yale

Chocolate Eclairs



"I decorated them myself with an ATECO"

APPETIZING icing designs on pastry, cakes, pies, puddings, and dressings on salads are easily and quickly made with the ATECO Pastry Decorator. The Set consists of a light weight metal holder and 12 interchangeable tubes with which an endless number of dainty designs can be made. It is so simple to use that it becomes fascinating to work with an ATECO.

Complete Set with illustrated instruction book of 100 pages **\$3.50**

Do not accept "bargain" substitutes

Ateco

CAKE AND PASTRY DECORATOR

If your dealer does not sell genuine ATECO Icing Sets, we will send one prepaid upon receipt of price.

August Thomsen & Co.,
488 Woodward Ave.,
Brooklyn, N. Y.



Automatic Rapid Electric FIRELESS COOKER

Cooks with electricity but has the advantages of fire—no heat, no smoke, no gas, no fire, no danger of fire.

New Invention

Applied to Fireless Cooker
Exemplified in Food Use

Bakes, roasts, broils, boils, steams, fries, toasts. Needs no assistance. Shuts electricity off automatically. Attaches to any electric socket. **No special wiring.** Write for FREE Home Science Cookbook, 30-day FREE trial offer and direct factory prices.

W.M. CAMPBELL CO., Dept. 96
Alliance, Ohio. Georgetown, Ont.



MAKE PRIZE ANGEL FOOD
Amazing New Way!

At last an entirely new and different way has been discovered to make the finest Angel Food—a way that is certain to produce prize-winning cake that never fails!

This new method is so easy and so sure that now any woman can quickly make the lightest, smoothest and most appetizing Angel Food.

MAKE MONEY IN SPARE TIME

Many women easily earn extra money every week making Angel Food for Parties and Clubs. Find out a sure way to make money. Full particulars sent free. Write your name and address on margin of this page and send at once.

MRS. GRACE OSBORN, Box 771, Bay City, Mich.



Figure 115: Three different ways of establishing an association between a need and the means of satisfying it (See page 489)

University when "Yale lock" is mentioned, solely through the similarity of name; or "United States Tires" may become associated with the stability and dependability of the United States merely through similarity of names. Many advertising appeals strike deep because of the similarity between a scene portrayed and one's own life situation. The power of the current Listerine advertising, of which Figure 22 on page 74, is a sample, or of such insurance advertising as illustrated in Figure 45, on page 170, may be due in part to association by similarity. In Figure 22 no mechanical device is relied upon to establish the proper association. It is logical rather than mechanical. The illustration and headline first attract the attention and present a powerful appeal, a truly pathetic situation and one to be guarded against. No arrow or other guiding line is required to lead the eye to the answer. Curiosity and a desire to *know* the answer will suffice. In printed advertising, therefore, the advertiser has at his command, through his control of attention, all the mechanisms that are essential for making desirable associations.

RELATIVE STRENGTH OF ASSOCIATIONS

We have thus far been concerned simply with the question as to how associations between two ideas are established and not with the factors that determine which of all the associations between one idea and a variety of others will be the strongest. Take, for example, the idea of "collar." With that have been associated a number of specific brands of collar, such as "Arrow," "Ide," "Lion," "Van Heusen," "Manhattan," and so on. When the need for a collar arises, which of these different names will come to mind, and if more than one comes, which will come most readily and quickly? If one thinks of these associations as corresponding to actual conditions in the nervous system, a spatial diagram such as Figure 116 will be of service. The readiness of any association to function will then depend

upon its strength, represented in the diagram by width of line. We have, therefore, to inquire into the conditions which determine the strength of these associative connections. They are known as "laws" and will be briefly reviewed.

LAW OF EXERCISE

The law of exercise, or the law of repetition, as it is often called, is the most universal of the conditions affecting the strength of associations. It means that the oftener the idea "collar" and the brand "Arrow" are experienced or attended to together the more closely will they be associated. The law says nothing as to how great the effect of any repetition will be or whether repetition is more effective than any other device. *What the law does mean is that, other things being equal, the brand name that has been most frequently asso-*

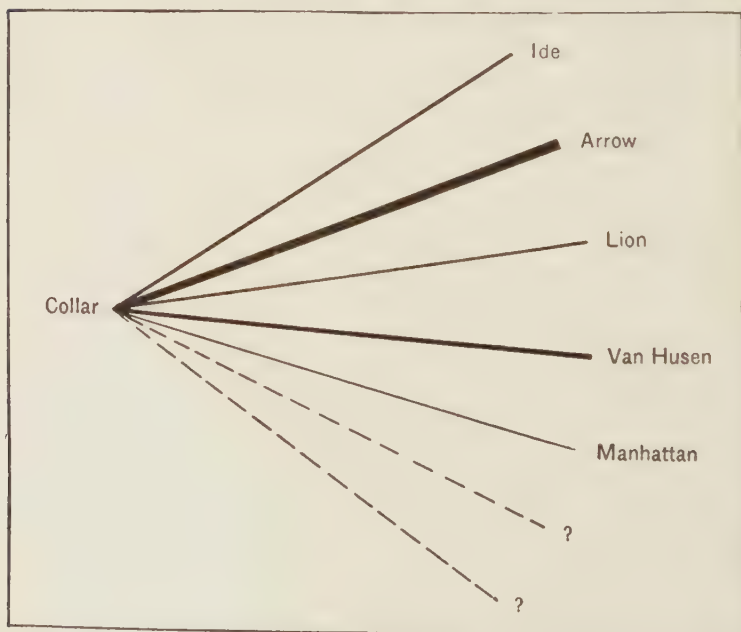


Figure 116: A schematic diagram to show the relative strength of associations between a commodity and a variety of trade names (See page 491)

ciated with collar will have the strongest bond with collar and will be the one most likely to be recalled.

The absolute value of any repetition or number of repetitions varies with circumstances such as the difficulty of the material and interval between repetitions. Still, the curve shown in Figure 117, which is a schematic picture of a typical learning curve, will give an idea of the relative value of different repetitions. For example, if the effect of exercise is measured in terms of the amount that a person can recall, the first 15% of the total number of repetitions will effect about half of the learning, while the other 85% of the repetitions are needed to complete the remaining half of the learning. Here may be seen, in a laboratory experiment, the basis for the so-called law of diminishing returns, which was shown to hold also for attention (Chapter IX). Since, however, the vital point in regard to associations is not their absolute strength but only their strength in relation to competing associations, too much significance should not be attached to the law of diminishing returns in its application to the formation of associations between a commodity

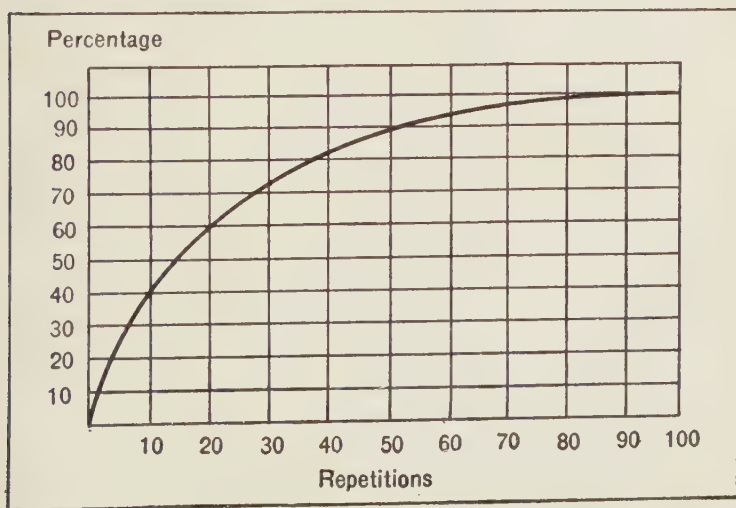


Figure 117: Curve showing the influence of repetition upon the memory

and a special brand of that commodity. In the Law of Exercise there is sufficient justification for continual repetition, especially in the case of commodities where competition is keen.

OPTIMAL INTERVAL BETWEEN REPETITIONS

Many corollaries might be added to this law of exercise which would be worthy of the attention of the advertiser. One might inquire concerning the optimal interval between the repetitions under advertising conditions. This problem has been attacked many times in the psychological laboratory under very well controlled conditions and with relatively short intervals of time, and the greatest economy has resulted from rather widely spaced repetitions. For instance, it is found that in learning non-sense syllables, if one is allowed to make a total of 24 repetitions, he will get the best

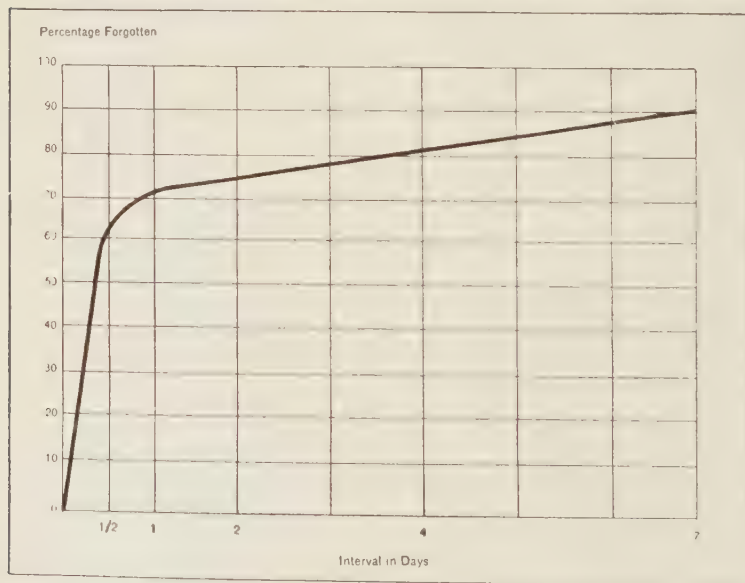


Figure 118: Curve showing the rate at which forgetting occurs with the passage of time

TABLE 96
RELATION BETWEEN INTERVAL OF TIME AND PERCENTAGE
FORGOTTEN*

Interval	Percentage Recognized	Percentage Forgotten
$\frac{1}{2}$ day	38	62
1 day	29	71
2 days	24	76
4 days	19	81
7 days	10	90

*Strong.

results from 2 repetitions per day for 12 days, rather than 6 repetitions per day for 4 days or 8 repetitions per day for 3 days. The first gives about 3 times the memory value of the last. But one would hesitate to conclude from this that the longer the interval between repetitions of the advertising message the better the result would be. For in this experiment, one-half day was the longest interval investigated. The experiment, results of which were reported in Chapter IX (page 217), comes much nearer the typical advertising situation. In this case the interval between repetitions varied from a few minutes to one month. An interval of one week was found to be most favorable for attention and memory. Such results as these cannot be taken at their face value for application to every advertising problem, but they do suggest that the problem warrants further study. One can go even beyond this simple question of optimal interval and inquire whether a varying interval might not be more efficient than a uniform interval. Laboratory studies could be cited to show that the optimal interval between repetitions varies with the stage of the learning. Inferences concerning this question have often been drawn from the "curve of forgetting." Such a curve is illustrated in Figure 118 and the data from which it is drawn are shown in Table 96. They are taken from a study of disconnected words, by Strong,¹ and represent the percentage that is forgotten after varying intervals of time,

¹Strong, E. K., "The Effect of Time Interval upon Recognition Memory," *Psychological Review*, 1913, XX, pp. 339 ff.

when measured by the recognition test. A glance at the curve will show that one forgets most rapidly in the period immediately after learning. At the end of one day 71% has been lost, while at the end of 2 days, only 5% more has been lost, and at the end of 7 days only 19% more has been lost. Might one conclude, therefore, that repetitions should be frequent when the associations are being newly established and when forgetting is rapid, and less and less frequent as the associations become older? The shape of the curve varies a great deal with different sorts of material. Furthermore, it will be noticed that the curve flattens considerably after one day, so that the intervals of time with which the advertiser is concerned will show only slight differences in the rate of forgetting. Considering the limitations under which the advertiser works as far as available repetition intervals are concerned, it would seem advisable at present not to attempt any application of these facts, concerning varying intervals to advertising schedules.

LAW OF EFFECT

This law states that any experience which produces a pleasurable effect tends to be remembered and that any experience which produces an unpleasant effect tends to be forgotten. Although there is much controversy about the manner in which the feelings could influence the memory in this way, there seems to be plenty of evidence that they do so. The law was first formulated to explain learning in animals but has since come to occupy an important place in human psychology also. The matter was considered at some length in the chapter on "Feelings and Their Influence in Advertising" (Chapter XIV), and the feeling-tone arising from the appropriateness of different devices for their particular purpose in advertising was considered in succeeding chapters. Laboratory studies of this question resemble the advertising situation too slightly to justify any inferences from them concerning the relative

value of different means of creating a pleasant feeling-tone. However, the influence of mood upon the ability to remember, discussed on page 356, may be cited as evidence in favor of pleasurable feelings.

Thorndike¹ sums up the matter as follows:

The facts are that in purposive thinking and action, as everywhere else, bonds are selected and retained by the satisfyingness, and are killed off by the discomfort, which they produce. . . . In intellectual matters, and in the activities of man that are only indirectly connected with the common instinctive wants, these annoyances and satisfactions and their effect on learning may be, and indeed usually have been, overlooked because they lack intensity of effect and uniformity of attachment. But they should not be.

LAW OF PRIMACY

It appears that, in general, those connections that have been established first have an advantage over all others as far as the ability to recall them is concerned. Of course, this advantage may be overcome by repetition and intensity devices on the part of a competitor. That merely being first within a series of experiences does carry some advantage may be demonstrated by means of a simple laboratory experiment. Such a one was described on page 255, and the results were given in Table 47. It shows the difficulty encountered in learning the different members of a list of words. The word standing first was invariably learned most easily. The differences are, indeed, considerable. Thus, the first word in a set of 10 was learned the first time it was presented, while the seventh one in the series required 32 promptings before it was learned. Primacy is so powerful a factor in learning that it must be guarded against as a source of error in all experiments with advertisements in which its measurement is not the object in view. It is possible that primacy is one of the important forces underlying preferred position, for most of those positions that are considered preferable are the ones that are

¹Thorndike, E. L., *Educational Psychology*, Briefer Course, 1915, p. 172.

met first or at least early in the customary handling of a magazine. It is likely also that primacy plays some part in determining which trade names of a kind of commodity shall be best known, although it is impossible to disentangle its effect here from such other factors as repetition, vividness, and so forth.

LAW OF RECENCY

Those experiences which are most recent, by virtue of their very freshness, tend to be recalled more readily than those experiences which are older. Reference to Table 46 will show that the last word in the list was easier to remember than those nearer the middle of the list, but that the advantage was not as great as that attached to first place in the list. Recency of association undoubtedly plays an important part in determining what particular commodity from among a number of similar kinds shall be purchased, as indicated by the tendency to buy again the kind that one has just had. However, the relative value of recency and primacy as forces in advertising is a difficult thing to determine.

LAW OF INTENSITY OR VIVIDNESS

The intensity of the impression has much to do with the strength of the connection established between a need or desire and a particular means of satisfying it. A very crude analogy may help to demonstrate this point. If one walks from one point to another through a field of grain, the path he travels will become more conspicuous the more frequently he travels it; but it will also be more conspicuous the more heavily he treads upon the grain. *Associations, such as we have been describing, are conceived physiologically as pathways in the nervous system connecting brain centers. And the formation of new associations is conceived as the process of making these paths more permeable to nervous impulses.* It will be recalled that intensity was shown to be reducible

TABLE 97

INFLUENCE OF VARIOUS FACTORS UPON MEMORY*

Color with two-place number in black	1.00
Color with three-place number in black	3.60
Color with two-place number in black (small)	1.47
Color with two-place number in red	2.37
Color with three-place number in red	2.27
Color with two-place number in black	
repeated twice	1.88
repeated three times	2.73
Color with two-place number in black (standing first)	1.35
Color with two-place number in black (standing last)	2.08

*Calkins.

ultimately to the shock of "difference" and that "difference" might be obtained in a great variety of ways, some of the more important of them being discussed in Chapters VII, VIII, IX, and XI. A simple laboratory experiment performed a number of years ago will give some indication of the memory value of a few intensity devices, although the intensity of any of them must have been exceedingly mild compared with those at the service of the advertiser today. Calkins¹ showed to her subjects a series of colors and numbers, each color along with a certain number, and immediately afterward presented each color alone and required the subject to recall the number that went with it. This method of studying memory is known as the method of "Paired Associates" and is especially applicable to the study of memory in advertising. Variations were introduced into the series as follows: Whereas the normal or usual pair of stimuli consisted of a color along with a two-place number printed in black and in a moderate size of type, there would sometimes appear a three-place number, or a two-place number printed in red, or a three-place number printed in red, or the same combination would be repeated a second time or a third time. The memory value of each of these variants from the normal was calculated separately and the results are given in Table 97. The memory value

¹Calkins, M. W., *Psychological Monographs*, 1896, I, Number 2.

of the normal pair is taken as 1.00 and all other values are expressed in terms of this value.

These figures show that different vividness devices vary considerably in their memory value, the weakest one being the presentation of the numbers in *smaller type*. Vividness is seen to have more influence upon the memory than repetition. In fact, averaging all the vividness factors, we find that they are more important than any of the others represented in this experiment. This result is supported by the data on attention value, also. If it should be supported by studies resembling the advertising situation more closely—and there is every reason to believe it would—the discovery would be important, for vividness is, on the whole, a cheaper device to use than repetition. While two presentations of an advertisement cost approximately twice as much as one, and three, approximately three times as much as one, to use larger type or an unusual layout may add nothing to the cost. Even the use of color would, in most instances, be cheaper than repeating in black and white.

MEMORY DEPENDS ON QUANTITY TO BE LEARNED

There is another fact about memory which should be mentioned in this connection although it can scarcely be called a law. It is that the strength of the associations depends upon the number that are being formed. It is not difficult to see the relation of this matter to advertising. Suppose, for example, that one is interested in establishing in the minds of the public an association between “need for a collar” and X brand of collar. If the advertisement featuring this brand appears among 100 other advertisements in a certain medium, does it have as much of a chance of being remembered as if it appeared among only 10 others? This question was considered in our study of the influence of position in a medium, and data were presented in Tables 44, 45, and 46, showing the way memory decreases with increase in the number of items to be learned. Whether

memory is measured in terms of amount recognized, or number of repetitions required to learn, or amount learned in one repetition, the results are the same, namely, that the more there is presented the smaller is the chance that any single item will be learned.

LAW OF INTEREST

There is one requisite for the formation of effective associations that underlies all the others; namely, interest. It is implied, to be sure, in our definition of association which says that to be associated, two things or ideas must be "attended to together." Without interest which is implied in this phrase, none of the other devices will produce results. For example, in a laboratory experiment, the writer was given the task of *naming as rapidly as possible* 100 small patches of color (5 different colors each repeated 20 times in a chance order). This task was repeated hundreds of times and the order of even the first 10 colors was never learned. The interest was in speed and the attention was directed, not to learning the colors, but to naming them as rapidly as possible. If the interest had been in learning them, a small fraction of the repetitions actually made would have sufficed. Learning without interest and intention is known as "Incidental Memory" and the surprising thing is the small amount of it. The watch that one has carried in his pocket for years may be a stranger to him as far as any particular features of it are concerned, because he has been interested in noting the time and not the kind of numerals on the face of the watch, whether or not the numeral "six" is present, and the like. The experiment quoted in Chapter XII showed that when one's interest was in naming O's as rapidly as possible, the memory for other things was weak, or entirely wanting. The mechanical devices for directing the course of attention are effective only when interest is present. They are aids, especially when the interest is relatively weak. But where there

is strong interest, as in wanting to know what is the means offered for satisfying some imperative need, the mechanical devices are relatively unimportant. Logical relationships then take the place of the mechanical ones. What are the interests that may be appealed to in establishing associations? They are to be found, in their essential character, in the list of instinctive and acquired appeals presented and discussed in Chapter III. *To have for sale a commodity that will satisfy a real human need, and to show in advertising that it will do so, and to show that it will do so better than any other commodity is to furnish the essential requirement for effective association.*

XX

METHODS OF MEASURING THE MEMORY VALUE OF ADVERTISEMENTS

Pure recall method. Measuring the value of particular advertisements. Measuring the efficiency of an advertising medium. Control of experimental conditions. Recognition method. Technique of the recognition test. The recognition value of an individual advertisement. Aided recall method. Comparison of the memory-measuring methods. Relation between recall and recognition. Memory values depend on the method used. Color evaluated by means of the three memory methods. How shall memory for advertising be measured?

THE methods of measuring the memory value of advertisements are quite simple in principle, although the technique developed for particular purposes may be elaborate. The psychological laboratory has created methods for measuring each of the four subdivisions of memory into which it was analyzed at the beginning of the previous chapter; namely, learning, retention, recall, and recognition. Not all of these methods are equally serviceable in solving advertising problems. For instance, the advertiser is always ultimately interested in the *reinstatement or reproduction* of what he has presented in his advertising and only incidentally interested in the matter of learning and retention. Consequently, recall and recognition will receive most of our attention. Our procedure in this chapter will consist in giving a description and demonstration of the various methods. This will be followed by an analysis of the kinds of reproduction of advertising experience which function in the purchase of goods and an examination of the various methods in order to determine which are the best measures of such reproduction. A failure to analyze the problem of memory in advertising would lead to the notion that memory is just memory and that the simplest

and easiest method of measuring it should be adopted, with the result that the important facts might not be measured at all.

PURE RECALL METHOD

To take the simplest possible case, let us suppose that a person has just finished reading his copy of a magazine and we want to find out how much he knows about the advertising contained in it. We might ask him to write down all the advertisements that he can remember. We give him no help in any form, such as telling him how many advertisements there were, what kind of commodities were advertised, or the like. He must depend entirely upon his own power to reproduce his experiences. Such reproduction we call "pure recall." The method is a modification of what is known in the psychological laboratory as the method of "retained members." As soon as he begins to comply with our instructions he meets an obstacle—how to record the advertisements that he recalls. If he remembers the trade name of a product advertised, he may record that; if he remembers the name of the manufacturer, he may record that. But he may recall merely that there was an advertisement with a curious purplish background, or that there was another with a picture of a lovely child. Obviously, therefore, each person must be instructed as to what will constitute a recall. From a strictly practical point of view, it would seem that the only kind of recall that would have any value would be the trade name or possibly the firm name. How long a time should the subject be given for his recall in order to be sure that he reports all that can possibly be recalled? Experience has shown that only a short time, usually a few minutes, is necessary, for what one does not recall in that time he will not recall at all. Furthermore, recall that results from a long and searching effort would be worth little or nothing from the advertising point of view.

One person's record will show that certain advertisements

could and others could not be recalled by him. But no conclusions could be safely drawn concerning the relative value of the advertisements from one person's reactions. Other persons who have read the same magazine should then be tested for the advertisements they can recall. From these records one may derive the relative recall value of the different advertisements in terms of the percentage of the group that remembered each one of them.

MEASURING THE RECALL VALUE OF PARTICULAR ADVERTISEMENTS

Table 98 shows the results of such a test for 8 advertisements in which 20 persons took part. The first column in the table simply gives the code number of the advertisement and the second column gives the percentage of the 20 persons who recalled it in terms of the trade name of the product advertised. Thus it will be seen that the 8 advertisements varied considerably in recall value, (from 5% to 70%).

TABLE 98
PURE RECALL VALUE OF ADVERTISEMENTS

Advertisement Number	Pure Recall	Correction	Revised Score
1	5	2	3
2	40	4	36
3	45	0	45
4	45	4	41
5	20	4	16
6	10	4	6
7	45	2	43
8	70	14	56

Perhaps these percentages cannot be accepted at their face value, however, for some of the trade names may have been very familiar to the persons before they saw the particular magazine and others may have been relatively unfamiliar. If such were the case, the advertisements carrying

the familiar trade name would have an undue advantage and would get a higher score than they should. This is certainly true if the purpose of the experiment is to measure the effectiveness of the particular advertising and not merely familiarity with the trade name. There is no perfectly satisfactory method of correction for this kind of error.

One method sometimes used by Starch and others consists in conducting what might be called an association test, by presenting to a group of people a series of general commodity names with the request that they mention the first trade name that comes to mind. By determining the percentage of the total number of persons that respond with the trade-named article in which we are interested, without having seen the advertisement that is being measured, we can get a correction factor to be applied to our original percentages. In the third column of Table 98 such percentages of familiarity for each trade name are given. These values were obtained from a group of 50 people, supposed to be comparable to the other 20 persons, who were given 8 general commodity names and asked to give the first trade name that occurred to them. For example, advertisement number 1 was Diamond Walnuts. Five per cent of the persons who looked through the magazine recalled that advertisement, but 2% who had not seen the magazine at all mentioned that trade name, when confronted with the word "nuts." In the table under "Revised Score" this 2% is subtracted from the original 5%, giving a revised recall value of 3% for that advertisement. All the other revised scores in the table are obtained in the same fashion. It happens that the relative values of the different advertisements when corrected do not differ much from the uncorrected values, but such is not always the case. In fact, in the experiment from which these figures are taken all very familiar trade names had been previously eliminated, so that the real need for such a correction does not become apparent. An examination of the original data

suggests the advisability of using such a check against familiarity.

MEASURING THE EFFICIENCY OF AN ADVERTISING MEDIUM

If one is testing the relative efficiency of different advertising mediums by the "pure recall method," he may select a number of advertisements from each medium and obtain a recall value for them in terms of the percentage of people recalling them. These recall values for the groups of advertisements in each medium will indicate the relative recall efficiency of the mediums.

In this case a correction for familiarity differences in the advertisements in the various mediums may be even more important than where one is testing specific advertisements. Take an extreme case for the purpose of illustration. One is measuring the relative value of the *Saturday Evening Post* and some trade journal as advertising mediums. The greater familiarity with the trade-named commodities in the *Post* than with those in the trade journal would make the test entirely unsafe unless some form of correction were used. And yet the fairness of this particular form of correction has never been determined. It is customary to eliminate from such tests all very well known advertisements and thereby reduce the size of the error, when the relative value of the advertisements themselves is not the object of the measurement.

CONTROL OF EXPERIMENTAL CONDITIONS

One or two other factors need to be noted in the use of this method. It usually happens that in memory experiments the investigator controls the conditions under which the advertisements are to be seen as well as those under which they are recalled. The advertisements are *shown* to the subject instead of testing him after he has *naturally*

looked through a magazine. How, then, can the conditions be best arranged? For the sake of economy of time, a short exposure time is chosen, so that a person is shown a series of advertisements at the rate of one every second or one every three seconds. It is quite likely that a certain type of advertisement might in such a case have an advantage which it would not hold if a long time were allowed for examination. It is true, certainly, in the case of attention value that color, for instance, which is a strong factor in holding attention during the first few seconds, loses its advantage when as many as 15 seconds are allowed for observation. Strong, in one of his experiments, tested two groups of subjects. In one group he exposed the material at the rate of one advertisement per second and in the other he allowed as much time as each subject wanted, telling him to look at the advertisements as he would if looking through a magazine. The latter group consumed just $3\frac{1}{2}$ times as many seconds as the first group. In terms of material remembered (recognition in this experiment) the latter group remembered about 3 times as much (6.3% as compared with 2.1%). From these figures the importance of controlling the exposure time for advertising material is evident if comparable results are to be obtained. No records for individual advertisements were given by Strong, but it is quite probable that certain advertisements might profit much more than others by an increase in exposure time. This is, therefore, one more reason for careful control of exposure time. As pointed out by Strong, who was studying the effect of size of advertisements, the length of exposure time made no difference so long as it was kept constant wherever comparisons were being made.

What is the influence of the time elapsing between presentation of the advertisements and the test for their recall? The curve shown in Figure 118, page 494, indicates that forgetting proceeds rapidly during the first day or two after the material is seen, hence it is necessary to keep this time interval constant in testing the memory value of advertise-

ments, if results are to be comparable. When the intervals are very long, such as a month or more, the differences in memory value, due to varying intervals, are not so important, but intervals as long as this are seldom used in testing advertisements.

To use the method of pure recall properly, therefore, means that one should take account of the degree of familiarity of the trade-named articles advertised; that he should control the time during which the advertisements are seen; and that he should control the interval of time between exposure of the material and the test for the memory of the material. When these factors are standardized or properly compensated for, one may measure, by the pure recall method, the influence upon the memory of a great many different advertising devices, such as size, repetition, position in the advertising medium, color, character of headline, and so forth.

RECOGNITION METHOD

In recognition, one is not required to reproduce what he has seen but merely to know whether or not he has seen it before. Suppose, for instance, that a person has just finished looking through a magazine. He might then be asked to go through it again, stating in the case of each advertisement whether or not he remembers having seen it. His report about each advertisement, whether seen or not seen, would constitute a crude measure of recognition. But there is one very important error in the test due to the fact that the subject needs merely to report "yes" or "no," meaning he has or has not seen it before. If he merely guessed every time, and if there was a fairly large number of advertisements, he could be correct half the time without any real recognition whatever. To take account of this guessing factor and to make the recognition test otherwise more sensitive, various refinements have been introduced into the method.

In the first place, it may be remarked that all the requirements for a good test of pure recall hold equally well for recognition. It is important to control or else allow for the factor of familiarity, to standardize the exposure time and the interval between seeing the advertisements and testing for recognition of them.

TECHNIQUE OF THE RECOGNITION TEST

In order to allow properly for the factor of guessing, the following procedure is frequently adopted: The experimenter shows, to a person, a series of 20 advertisements, one at a time, and at a uniform rate, let us say one every 3 seconds. After an interval of time which has been chosen to suit the purpose of the experiment, the original 20 advertisements, mixed in a random fashion with 20 not seen before, are presented to the subject with instructions to pick from the group of 40 advertisements *those he did see before, those he did not see before, and those about which he is doubtful*. If we are interested in finding the power of recognition of the person tested, we can calculate it as follows: The number of advertisements reported "doubtful" show an absence of recognition; consequently if no mistakes were made in the other two groups "seen before" and "not seen before," his recognition score would be "total number" minus "doubtful." But he may have said that he saw certain advertisements when he really did not, and that he did not see certain ones when he really did see them. Such errors show a lack of recognition and should be added to the doubtful. Furthermore, if these errors were due to guessing, they represent only the cases where the guess was wrong, so that one can expect as many guesses to be right as wrong. We have, then, a score for recognition made up as follows:

$$\text{Recognition} = \frac{\text{Total No. of Advertisements}}{40} - (\text{No. doubtful} + 2 \times \text{No. wrong})$$

This formula may be illustrated by means of a concrete case. Assume that a certain person took the test in which

20 advertisements were shown originally and later 40 were presented for recognition, and that he reported:

Seen before: 15, of which 3 were wrong;
 Not seen before: 10, of which 2 were wrong;
 Doubtful: 15.

His score would be $40 - (15 + 2 \times 5) = 15$. By dividing this score by the total number of advertisements it can be transmuted into percentage, or 37.5%.¹

A score like this will suffice for answering such a question as, "How does the memory (measured in terms of recognition) for advertisements in the *Saturday Evening Post* compare with memory for advertisements in the *New York Times*? By testing a number of persons with each medium and averaging the recognition scores for each medium separately, the two mediums can be compared directly in terms of these average recognition scores. In the same way, one can compare the memory value of large advertisements with that of small ones, the memory value of colored advertisements with that of uncolored ones, and so forth.

THE RECOGNITION VALUE OF AN INDIVIDUAL ADVERTISEMENT

When it is a question of comparing the recognition value of individual advertisements—and this is often desirable—a somewhat different method must be employed. Sometimes a number of persons will be tested, as just described, and the number of times or percentage of times that the particular advertisement is correctly reported as having been seen is taken as its recognition value. Suppose that in the preceding experiment we were interested in measuring the recognition value of a certain one of the 20 adver-

¹A more elaborate method of scoring recognition has been devised and used by E. K. Strong in some of his studies of advertising. A discussion of the various methods may be found in Achilles, E. M., "Experimental Studies in Recall and Recognition," *Archives of Psychology*, Number 44, 1920. As the differences between these methods have a theoretical rather than a practical interest, it is not essential to present them here.

tisements originally shown, and that 50 persons were tested. If 25 persons said they had seen this advertisement before, 10 said they had not seen it before, and 15 were doubtful, the recognition value would be called 25 (or 50%, since one-half of the 50 persons recognized it). This scoring, however, does not take account of the possibility of being right by merely guessing. We might assume that if 10 persons said they did not see it when they really did, that as many also said they saw it when they really did not. Hence we could say the score should be the total number of persons tested, minus the number doubtful, plus twice the number who were wrong, or:

$$50 - (15 + 2 \times 10) = 15, \text{ or } 30\%.$$

The recognition score of this advertisement might then be compared with that of any other one. The reasoning on which this method of calculation is based is not so sound as where the recognition score of a person is being determined. But if the number of persons tested is very large, the error is probably slight.

AIDED RECALL METHOD

This method is in one respect a kind of compromise between the two that have already been described. Instead of requiring a person to recall the advertisements that he has seen, or instead of showing them to him merely for identification, he is given a clue to each one as an aid in remembering. The method about to be described resembles rather closely what is known in the psychological laboratory as the "method of paired associates." According to this method, all material to be learned is presented in pairs and the subject is later shown the first member of the pair with instructions to recall the second member of the pair. When asked to recall something by this method the subject is always presented with something else with which it has been previously associated.

Suppose that a person has just finished looking through a magazine and we proceed to test him for his memory of the advertisements that he has seen, by giving him a list of all the *kinds of things* that were advertised and requiring him to name *the particular brands or trade names* that were advertised, as in the following list:

Kind of Article Advertised	Trade Name of Article
Nuts	Diamond walnuts
Shoes	Selz
Flooring	Southern pine
Wall covering	Sanitas
Fountain pen	Parker
Roofing material	Barrett
Vacuum cleaner	Apex
Silverware	Wallace
Collars	Van Heusen
Automobile	Velie

A crude measure of his memory might be obtained by finding the number of trade names or the percentage of trade names that he could recall in this way. Such a memory score would contain the same kind of error as that shown to be present in pure recall. That is, one's response might be due not alone to having seen a given advertisement while looking through the magazine but to the effect of many advertisements seen at other times and many purchases of the given trade-named article. The introduction of these factors into the memory score constitutes an error if the effectiveness of a single piece of advertising copy is being measured, or a particular advertising medium is being evaluated. A correction of the same nature must be made here as in the case of pure recall. The same kind of test is conducted in order to determine just what trade-named products will be called to mind by a given commodity name without the particular magazine or advertisement having been seen at all. The correction is made as indicated in Table 98. The difference between the responses given before and after the particular maga-

zine has been seen must be attributed to the influence of that magazine.

All the variations may be used with this test of memory that are possible with the other two tests. For instance, a person may be interested in measuring the effect of all the advertising of a given product with which people have come into contact, hence he will exercise no control over the presentation of the material and his only task will be to make the test; or he himself may present a set of advertisements at a given rate, such as one each second; again, he may control the interval between presentation of material and the test for it from a few minutes to a few months. He may measure by this method the effectiveness of different mediums, of different styles of copy, of color versus no color, of different forms of illustration, and so forth. The same precautions must be observed in using this method as in using either of the other two.

COMPARISON OF MEMORY-MEASURING METHODS

Are the results obtained by these three methods the same, so that one may suit his convenience in choosing one, or are there significant differences among them? Achilles¹ has made an elaborate comparative study of recall and recognition of various kinds of material. The relation between them, expressed in terms of coefficients of correlation, is shown in Table 99. The two columns in the table represent two separate experiments on adults for five kinds of material. The average relationship, as shown at the bottom of the table, is indicated by a positive correlation of .23. Although it is positive, it is not high.

Applying these figures to advertising, they would mean that an advertisement which stands high when tested by one method would not necessarily stand high when tested by the other method. Among the conclusions of Achilles certain ones are especially interesting.

¹Achilles, E. M., "Experimental Studies of Recall and Recognition," *Archives of Psychology*, Number 44, 1920.

TABLE 99
RELATION BETWEEN RECALL AND RECOGNITION*

Material	COEFFICIENTS	
	Group A	Group B
Words (First Series).....	.24	.18
Words (Second Series).....	.24	.34
Forms .....	.18	.16
Proverbs .....	.42	.08
Syllables .....	.32	.74
Average .....	.23	

*Achilles.

1. More items are recognized than recalled. In her experiments from two to four times as many were recognized as recalled; although the actual amount of difference depends somewhat upon the kind of material used, the most striking characteristic of recognition is its greater efficiency compared with recall.

2. The difference between recall and recognition was greater when the subjects did not know they were being tested than when they did know. And the difference between the recall records when the subjects did not know they were being tested and when they did know was greater than the difference between the recognition records under like circumstances. These are important points to note since they mean that laboratory tests of recognition would give results more directly applicable to practical situations than those of recall.

3. Primacy and recency both influence recall much more than they influence recognition.

4. The data show that a person who recalls material well may recognize it well or poorly. Indeed, we know little about a person's recognition power from his recall power, and vice versa.

5. The correlation for recognition of different materials is low, and so is the correlation for recall of different materials.

MEMORY VALUES DEPEND ON THE METHOD USED

Another investigation,¹ in which advertisements were used, affords a comparison among the three kinds of memory tests which were conducted about as we have described them. Table 100 gives the coefficients of correlation among them.

TABLE 100

RELATION BETWEEN PURE RECALL, AIDED RECALL,
AND RECOGNITION*

Pure Recall and Aided Recall.....	.70
Pure Recall and Recognition.....	.41
Aided Recall and Recognition.....	.25

*Brandt.

These figures show higher positive correlations than those obtained by Achilles. But even correlations of this size give little assurance that a given advertisement that stands high by one test will stand high by either one of the other two tests. Table 101, taken from Brandt, will give a concrete illustration of this point. One purpose of her experiment was to find the relationship between the memory value of an advertisement and the amount of color it contained (in area). The three memory methods were used to measure a set of 32 advertisements and the table shows the order of the advertisements according to quantity of color, memory value measured by pure recall method, aided recall method, and recognition method. The headings of the columns will indicate their meanings. The figures in the first column are simply the code numbers of the advertisements, and all other figures represent rank among the 32 advertisements. The most important fact to observe is the shifting of position of a given advertisement according to the method used. For instance, advertisement number 16 stands first in the pure recall test, fourth in the aided recall test, and twentieth in the recognition test. Advertisement number 1, on the other

¹Brandt, E. R., *Measuring the Memory Value of Color in Advertising*. M. A. Thesis, Columbia University, 1924, (unpublished).

TABLE 101

RANK ORDERS FROM THREE MEMORY-MEASURING METHODS*

Advertisement Number	Amount of Color	Pure Recall	Aided Recall	Recognition
1	8.0	30.0	30.0	5.5
2	11.0	4.0	10.0	2.0
3	15.0	19.0	5.0	20.0
4	6.0	24.5	7.0	12.0
5	10.0	30.0	22.0	26.0
6	15.0	24.5	29.0	29.5
7	13.0	5.5	6.0	1.0
8	18.0	2.5	2.0	5.5
9	4.0	16.5	26.0	12.0
10	3.0	9.0	13.5	12.0
11	7.0	16.5	17.5	5.5
12	9.0	19.0	13.5	20.0
13	5.0	9.0	9.0	12.0
14	2.0	13.5	11.0	20.0
15	1.0	2.5	3.0	5.5
16	12.0	1.0	4.0	20.0
17	15.0	5.5	20.0	5.5
18	20.0	21.0	31.5	12.0
19	17.0	9.0	15.0	12.0
20	22.0	30.0	31.5	29.5
21	21.0	24.5	23.5	20.0
22	24.0	24.5	20.0	26.0
23	19.0	13.5	1.0	20.0
24	23.0	13.5	12.0	29.5
25	28.5	19.0	15.0	26.0
26	28.5	24.5	26.0	20.0
27	28.5	24.5	26.0	29.5
28	28.5	9.0	8.0	20.0
29	28.5	30.0	28.0	5.5
30	28.5	30.0	23.5	20.0
31	28.5	9.0	17.5	12.0
32	28.5	13.5	20.0	32.0

* Brandt.

hand, which stands thirtieth in the pure recall test and thirtieth in the aided recall test, stands fifth (actually 5.5) in the recognition test. Advertisement number 21 stands about the same in all three tests, namely 24.5, 23.5, and 20. If, therefore, one is interested in finding the best advertisement for a given purpose, one's choice of method is important.

COLOR EVALUATED BY MEANS OF THREE
MEMORY METHODS

The influence of the memory method used upon the results that are obtained may be illustrated further with some data on the value of color. It has been found that color improves the efficiency of an advertisement relatively little, over what would result from black and white only, when the efficiency is measured in terms of recognition. These conclusions have been widely quoted. When the effect of color is measured, not merely in terms of recognition, but also in terms of pure recall and aided recall and the results compared, some interesting facts appear. Table 102 shows the data from such a comparative study.

TABLE 102
THE VALUE OF COLOR MEASURED IN DIFFERENT WAYS*

Method	AVERAGE SCORE		Percentage Increase with Color
	Black and White	Colored	
Pure Recall	13.75	22.29	62
Aided Recall	18.62	28.83	55
Recognition (1)	72.50	79.17	9
Recognition (2)	92.50	91.49	—1

*Brandt.

The figures in the first two columns give the average percentage remembered in the case of "black and white," and the "colored" advertisements. The last column gives the amount of increase due to the use of color in terms of percentage of the "black and white" score. The minus sign indicates that the color was less efficient. In "recognition (1)" each advertisement was seen (when originally presented) for 3 seconds and in "recognition (2)" for 10 seconds.

The figures obtained for recognition with the 3-second exposure agree fairly well with those obtained by other investigators in placing the advantage of color at about 10%, but when measured by pure recall this advantage amounts to more than 60%, and when measured by aided

recall, to more than 50%. It is interesting to note also the change in the value of color that occurs when the exposure time of the material is increased in the recognition experiment. The results agree exactly with those of Nixon, quoted on page 268, which show that any advantage which color seems to have in merely attracting the attention is lost when the duration of attention is taken into account. Nixon found, too, that his colored advertisements had a recall value about 25% higher than the black and white, although he states that the difference was, in his experiment, not very reliable.

Many interesting questions are raised by these data. For instance, why does color show up so differently when measured in these various ways and how should color be used so as to give the maximum results? Is color most effectively used as background and if so, should the colors be saturated or weak? Is one color better than another for background purposes? Do the best results come from presenting the article in color, or do the best results come from presenting the trade name in color? All of these questions and many more can be answered by the application of our experimental methods. Our purpose in giving the data has been merely to show that different methods of measuring memory may give differing results.

HOW SHALL MEMORY FOR ADVERTISING BE MEASURED?

It is obvious from the foregoing discussion that the choice of the method that shall be used for measuring the memory of advertisements is not entirely a matter of convenience. Since the results obtained from different methods vary as they do, it will be necessary to inquire how one remembers or rather recalls an advertisement and how such memory can be most adequately measured. When one recalls an advertisement, or the trade name of a product which has been advertised, there is a reason for his doing so. There is something in his mind with which that advertisement or

trade name has been associated. Indeed, it is the function of the advertising to establish just such associations, the more of them the better. But the most important association or bond that can be established is that between a desire or need and some specific means of satisfying the desire or need. Thus, when one feels a need or desire to own a vacuum cleaner, that brand which comes to mind and succeeds in staying there will stand a good chance of being purchased. Now this form of memory is neither pure recall, such as is involved in reciting a poem, nor is it recognition, such as is involved in identifying an advertisement as seen before. It resembles most closely what has been called "aided recall" in this chapter, or the laboratory method of "paired associates." The first member of the pair is the need or desire and the second member is the particular product that has been shown by advertising to satisfy the need or desire. Therefore, if one wishes to learn, by means of a test, whether his advertising has been effective or not, let him present a certain need to a group of persons and find how many of them recall his product as *the* means of filling that need. The technique has been described in detail earlier in the chapter.

Perhaps the advertisement's main function in a particular case may be to aid in the *identification* of a given product by customers who will see it among other competing products on the dealers' shelves. Such a reaction resembles the recognition process and may be best measured by the recognition test. That such ability to recognize a product is important was clearly demonstrated in Chapter XII, where the process of "perception" and "discrimination" was discussed. If an advertisement is intended both to establish associations and to facilitate identification, it should be tested for both recognition and aided recall. When these two functions of an advertisement are thus distinguished and tested separately, any weakness in one or the other respect can be discovered and corrected. The factors on which memory and identification depend have already been

discussed and they should be employed in repairing any weaknesses which the tests reveal. Our analysis of the reaction to advertising shows no recall that resembles pure recall as it is usually measured. The only justification for its use, therefore, is to be found in the size of its correlations, with aided recall and recognition, which are not high.

XXI

KNOWLEDGE OF TRADE NAMES

The association test. Variations in number of trade names mentioned. Cases where no trade names are known. Dominant trade names. Causes of familiarity of trade names and their dominance. Advertising determines half of the associations. Significance of the association test in advertising. Association test does not measure use. Information to be gained from an association test. Significance of lack of consistency.

The method of "aided recall" was described in the last chapter as the one that most nearly measures memory for advertisements and trade names as it actually occurs in every-day life. It has been most widely used for measuring the degree to which the public is acquainted with certain brands of commodities, as the result not of a particular piece of advertising, but as the result of years of publicity. The experiment, as used for this purpose, differs from the usual memory experiment in that it is concerned merely with knowledge acquired and exerts no control whatever over the accumulation of this knowledge. In this respect it resembles what is commonly called the "association test" and, in fact, has been known by that name when applied to the measurement of knowledge of trade names. The procedure is very simple, although the labor of compiling the data is considerable. A subject or group of subjects is given a series of commodity names (such as "candy") with instructions to write or speak the first specific brand or manufacturer's name that comes to mind. The method is based directly on the facts of memory discussed in the preceding chapter. It assumes that under ordinary circumstances the name which comes to mind in this test is the one best known at the moment. The knowledge will depend upon repetition of earlier experiences, their vividness, primacy, recency, and so forth.

THE ASSOCIATION TEST

The most extensive study of this type was made by Hotchkiss and Franken,¹ who tested 1,024 people with the following list of 100 commodity names. A typical set of replies to one of these words is shown in Table 103, in which the figures represent the number of persons mentioning a given trade name.

1. Bacon	27. Cake short-	51. Gloves	75. Bicycles
2. Baked beans	enings	52. Handkerchiefs	76. Motor-cycle
3. Breakfast	28. Beer substi-	53. Hats	77. Tires
food	tutes	54. Hosiery	78. Motor-truck
4. Butter	29. Baking	55. Men's cloth-	79. Jewelry
5. Candy	powder	ing	80. Watches
6. Canned fruits	30. Dentifrice	56. Neckties	81. Phonographs
7. Chewing gum	31. Face cream	57. Raincoats	82. Pianos
8. Chocolates	32. Hair tonic	58. Rubbers	83. Cigaretts
9. Cocoa	33. Soap	59. Rubber heels	84. Cigars
10. Coffee	34. Toilet soap	60. Shirts	85. Tobacco
11. Coffee sub-	35. Shaving soap	61. Shoes	86. Fountain pen
stitutes	36. Laundry soap	62. Silks	87. Ink
12. Crackers	37. Toothbrush	63. Umbrellas	88. Paper
13. Fish	38. Talcum	64. Underwear	89. Pencils
14. Flour	powder	65. Women's	90. Flashlights
15. Fruit	39. Tooth-paste	clothing	91. Laxative
16. Grape juice	40. Face powder	66. Filing cab-	92. Leather goods
17. Jelly or jam	41. Cleanser	inets	93. Razors
18. Canned milk	42. Dyes	67. Lamps	94. Paint or var-
19. Mince meat	43. Linen	68. Stoves	nish
20. 5-cent mint	44. Oil	69. Kitchen cab-	95. Typewriters
candies	45. Polish	inets	96. Yarn
21. Peanut butter	46. Silverware	70. Sewing ma-	97. Lace
22. Soft drinks	47. Boys' cloth	chines	98. Lace curtains
23. Soup	ing	71. Cameras	99. Ribbon
24. Tea	48. Collars	72. Guns	100. Insurance
25. Spaghetti	49. Corsets	73. Revolvers	
26. Rice	50. Garters	74. Automobile	

Table 103 illustrates the most important characteristics of the replies received in such an experiment. It shows that 69 different brands were mentioned in response to the stimulus "breakfast food." Fifty-two of these are included under the heading "Miscellaneous" in the table. This group comprises all the brands that are mentioned too seldom to warrant listing separately. Fourteen out of the 69 brands were

¹Hotchkiss, G. B. and Franken, R. B., *The Leadership of Advertised Brands*, 1923.

TABLE 103
ASSOCIATIONS WITH "BREAKFAST FOOD"*

Brand	Males	Females	Total
Kellogg's Corn Flakes.....	149	170	319
Cream of Wheat.....	48	46	94
Grape Nuts	48	41	89
Post Toasties	41	48	89
Shredded Wheat	35	30	65
Quaker Oats	30	35	65
Force	7	9	16
Puffed Rice	6	8	14
Mother's Oats	1	13	14
H. O. Oats	12	0	12
Ralston	0	9	9
Pettijohn	2	7	9
Preston	5	0	5
Puffed Wheat	0	7	7
<i>Miscellaneous</i>			
Males 37, Females 15.....	65	30	95
<i>Names, but Not Brands:</i>			
Corn Flakes	18	10	28
Oatmeal	0	7	7
Blank—	45	42	87

*Hotchkiss and Franken.

mentioned so frequently as to make up 79% of all replies. These figures hold, of course, only for the commodity "breakfast food," and those for other commodities might vary considerably from them.

VARIATIONS IN NUMBER OF TRADE NAMES MENTIONED

Table 104 shows how the 100 commodities vary in the number of brands mentioned. The upper row of figures gives the number of different trade names arranged in steps from 10 to 160; the second row shows how many of the 100 commodities elicited a given number of trade names. Thus the table shows that there were 3 different commodities that brought forth as few as 10 to 20 different trade names; that

TABLE 104

NUMBER AND RANGE OF TRADE NAMES PER COMMODITY

Number of trade names per com- modity.....	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100 to 110	110 to 120	120 to 130	130 to 140	140 to 150	150 to 160
Number of com- modities.....	3	15	14	16	13	9	7	9	5	1	1	2	2	2	1

there were 15 commodities eliciting as few as 20 to 30 different trade names; and that there was 1 commodity that was responded to with 150 or more different trade names, and so on. The smallest variety of brands given for any commodity was 17 in the case of "fountain pen." Next to this stood "motor-cycles" and "phonographs" each with 18 brands. "Butter," which stood at the opposite extreme, had 153 different brands. The average number of brands mentioned per commodity is about 50. In the case of 9 commodities, 100 or more brands were mentioned. These figures show a great difference in the mind of the public for these 100 commodities as far as the spread of competition is concerned.

CASES WHERE NO TRADE NAMES ARE KNOWN

Table 103 shows further that there were some persons, about 8%, who were unable to mention any trade name in response to the stimulus "breakfast food." The number of blanks of this sort for the different commodities furnished some of the most important data derived from this experiment. Table 105 shows the distribution of blanks among the 100 commodities in terms of percentage of the 1,024 replies. The upper row of figures represents percentages from 0 to 100 in steps of 10. The second row of figures shows how many of the 100 commodities had a given percentage of blanks.

Thus there were 14 commodities where the number of blanks ranged from 0% to 10%; there were 24 commodities where the number of blanks ranged from 10% to 20%; and

TABLE 105
PERCENTAGE OF BLANKS PER COMMODITY

Percentage of blanks per commodity.....	0	10	20	30	40	50	60	70	80	90
to	to	to	to	to	to	to	to	to	to	to
10	20	30	40	50	60	70	80	90	100	
Number of commodities.....	14	24	19	11	10	7	7	5	1	1

there was 1 commodity where the number of blanks was 90% or more of the 1,024 replies. "Chewing gum" had the smallest number of such failures to respond (4%) while "lace curtains and ribbons" stood at the opposite extreme with 92.7% of blanks. Hotchkiss and Franken point out an interesting relationship between "brand familiarity" (the fewer the blanks, the greater the "brand familiarity") and the number of brands mentioned. The fewer the brands mentioned the smaller is the number of blanks likely to be. For example, in the case of cigarets there were 39 brands named and there were 35 blanks, while in the case of cigars there were 135 brands named and 104 blanks. Also in the case of phonographs there were 19 brands named and 30 blanks, while in the case of pianos there were 94 brands named and 122 blanks. "From these and similar instances, it might fairly be inferred that in a market crowded with competing brands it is difficult to get the consumer to become familiar with any particular brand or to remember brands at all."

DOMINANT TRADE NAMES

are shown in Table 106 together with the number of replies that brand is said to be *dominant* in the mind of the public. In this test of 100 commodities there were 17 brands or trade names that had such "mental dominance." They are shown in Table 106 together with the number of replies received in terms of percentage of the whole 1,024.

In sharp contrast with this group of commodities with dominating brands are those shown in Table 107, where no

brand stands out predominantly from the others. The figures have the same meaning as those in Table 106.

TABLE 106
COMMODITIES AND THEIR DOMINANT BRANDS

Commodity	Brand	Percentage
Cameras	Eastman	86
Sewing machine	Singer	75
Soup	Campbell	74
Collars	Arrow	73
Fountain pen	Waterman	73
Coffee substitute	Postum	72
Cleanser	Old Dutch	72
Chewing gum	Wrigley	64
Crackers	National Biscuit Co.	64
Grape juice	Welch	60
Toothbrush	Prophylactic	56
Motor-cycles	Indian	55
Tooth-paste	Colgate	52
Rubber heels	O'Sullivan	51
Cocoa	Baker's	50
Silverware	Rogers	50
Baking powder	Royal	50

The facts brought out in this investigation are well supported by a more recent study¹ of a similar nature, in which 1,000 young men and women residing in a single city were tested with 20 commodity names. In addition to confirming the earlier study, this author's work presents evidence

TABLE 107
COMMODITIES HAVING NO DOMINANT BRAND

Commodity	Brand	Percentage
Butter	Blue Valley	7
Neckties	Cheney	6
Filing cabinets	Globe Wernicke	5
Rice	Comet	4
Umbrellas	Storm King	1
Ribbons	Baby Grosgrain	0.6

¹Donovan, H. M., *Advertising Response*, 1924.

concerning age differences as factors in the purchase of goods. This matter will be dealt with in a later chapter.

CAUSES OF FAMILIARITY OF TRADE NAMES AND THEIR DOMINANCE

The laws of association previously discussed will explain in a general way why certain brand names come to mind more readily than others. However, it is possible to inquire more specifically into the question by both the historical approach and by experiment. Hotchkiss and Franken made a historical survey of the firms producing the 19 leading brands and drew from it the following conclusions:

1. All these brands have been on the market a long time and several are the pioneers in their respective fields.
2. Nearly all of them are extensively advertised, and nearly every one is the pioneer large advertiser in his field. Nearly every one has been a persistent advertiser during the last 10 years.
3. Each one is the largest or nearly the largest seller in his field.
4. Nearly all of the commodities are such as would be used frequently.
5. All are products of standard quality and of good reputation.

These conclusions are about as specific as can be expected from such a historical survey. They give no idea of the relative importance of the various influences found to be effective in establishing a brand on the market.

One of the earliest applications of the "association test" to advertising made by Geissler¹ furnished a more detailed analysis of causes. He tested 300 men, widely distributed geographically, with the names of 20 commodities. His procedure was the same as that described above except that after each response was given, the person was asked to

¹Geissler, L. R., "Association Reactions Applied to Ideas of Commercial Brands of Familiar Articles," *Journal of Applied Psychology*, 1917, I, pp. 275 ff.

TABLE 108
COMMODITIES AND BRAND FREQUENCY*

Commodity	Number of Brands Named	Most Frequent (1)	Next Most Frequent (2)	Sum of (1) and (2)	Miscel- laneous Brands	Number of Blanks
Garter.....	12	192	85	277	12	11
Underwear.....	17	248	18	266	30	4
Camera.....	18	157	52	209	82	9
Fountain pen.....	19	146	72	218	82	.....
Watch.....	20	97	60	157	143	.....
Baseball.....	23	179	53	232	42	26
Tooth-paste.....	25	155	78	233	61	6
<i>Average.....</i>	<i>19</i>	<i>170</i>	<i>60</i>	<i>227</i>	<i>65</i>	<i>8</i>
Collar.....	35	224	19	243	51	6
Shaving tool.....	35	162	17	179	101	20
Soft drink.....	36	194	11	205	90	5
Tobacco.....	37	100	57	157	139	4
Soap.....	42	121	39	160	140	.....
Penknife.....	45	168	14	182	79	39
Hat.....	47	149	35	184	94	22
<i>Average.....</i>	<i>40</i>	<i>160</i>	<i>27</i>	<i>187</i>	<i>99</i>	<i>14</i>
Magazine.....	54	72	39	111	178	11
Shirt.....	56	73	44	117	143	50
Candy.....	59	38	31	69	196	35
Clothes.....	61	86	45	131	144	25
Shoes.....	78	58	21	79	210	11
Note paper.....	93	21	13	34	178	88
<i>Average.....</i>	<i>67</i>	<i>58</i>	<i>32</i>	<i>90</i>	<i>175</i>	<i>47</i>
Grand total.....	812	2,640	793	3,433	2,195	372
<i>Grand average.....</i>	<i>40.6</i>	<i>132</i>	<i>39.6</i>	<i>171.4</i>	<i>110</i>	<i>18.6</i>

*Geissler

report the reason for that particular response. Table 108, adapted from Geissler, gives the data concerning number of brands, dominance, and failures to respond. These figures are comparable with those of Hotchkiss and Franken. The commodities are grouped into three classes according to the number of different brands mentioned. Computations are made separately for these three classes.

Since there were 300 persons tested, the maximal number of times that any trade name could have been mentioned is 300. Nine out of the 20 commodities have a brand possessing mental dominance, meaning that a single brand received a majority of the replies. Fourteen of the commodities have a majority of the replies going to two brand names. The

TABLE 109
REASONS GIVEN FOR RESPONSE*

Commodity	Frequency of Use	Advertising	Miscellaneous	No Reason
Fountain pen.	207	58	30	5
Collar.	197	69	24	10
Watch.	197	43	60	.....
Tooth-paste.	193	65	30	12
Garter.	186	78	22	14
Shaving tool.	183	68	29	21
Underwear.	173	76	40	11
Shoes.	167	55	67	12
Clothes.	163	86	33	18
Soap.	147	121	32	.....
Magazine.	141	16	121	22
Notepaper.	125	31	53	91
Shirt.	123	65	54	58
Camera.	117	99	65	18
Hat.	104	90	77	20
Baseball.	93	49	120	40
Soft drink.	85	134	72	8
Penknife.	83	92	78	47
Tobacco.	76	137	77	9
Candy.	76	82	102	39
<i>Average.</i>	<i>142</i>	<i>76</i>	<i>59</i>	<i>23</i>

*Geissler

table shows clearly that the fewer the number of different trade names mentioned, the smaller is the number of blanks representing inability to respond. For the three groups the average numbers of trade names are 19, 40, and 67, and the average numbers of blanks are 8, 14, and 47.

ADVERTISING DETERMINES HALF THE ASSOCIATIONS

The reasons given by the subjects for their responses are compiled in Table 109. They appear under three headings in the table; namely, "Frequency of Use," "Advertising," and "Miscellaneous." There is a fourth class containing the cases where no reason could be given. These are, of course, general descriptive terms for such specific replies as, "I used to wear that brand," or "I bought one of this kind," or "I own one," in the case of "Frequency of Use"; and "I saw it advertised in a street-car," or "widely advertised,"

or "I remember the cover of a *Saturday Evening Post*," in the case of "Advertising." The "Miscellaneous" group contains about 38 different kinds of answer, such as, "Friend uses brand," or "Saw it in store window."

The largest number of reasons that can be given for any single response is 300 (one for each person). The averages given at the bottom of the table show that out of 300 possible reasons, 142 were "Frequency of Use" (or 47.3%) and 76 were "Advertising" (or 25.3%). That is, use of an article is at first sight about twice as potent a reason as advertising for knowledge of a trade name. But the figures must be analyzed further. For instance, a survey of the "Miscellaneous" reasons of which there were 59 per commodity on the average, suggests that about half of them (roughly 30) are traceable finally to use by one's self, a friend or member of the family, and half to advertising in some form. One must also inquire into the original causes of "Use." Geissler believes that if such causes of use as "used by parents" or "in the home" are subtracted, about five-eighths of the remaining cases are traceable to advertising. If we assume that one-half of the "Use" reasons represent use by parents or in the home, we have left 45 cases to be added to "Advertising" ($\frac{5}{8}$ of $142 \div 2$). We find, then, that there is to be credited to "Advertising" 76 cases, plus 30 cases plus 45 cases, or 151 cases out of 300. This means that, when proper allowances have been made, "Advertising" and "Use" are just about equally potent in determining the trade-name response.

SIGNIFICANCE OF THE ASSOCIATION TEST IN ADVERTISING¹

The question of the significance of the association test in advertising was raised in an experimental study of Laird.²

¹Portions of the following discussion appeared in an article entitled, "Psychological Tests in Advertising," by A. T. Poffenberger, *Journal of Experimental Psychology*, 1924, VII, pp. 312 ff.

²Laird, D. A., *Journal of Experimental Psychology*, 1923, VI, pp. 357 ff.

This investigator conducted an association test in which the stimuli were 15 general commodity names, such as, shoes, chewing gum, tooth-paste, and so forth, and in which the response was to be the first brand name of such a commodity that the subject could recall. This test, given to about 50 subjects, was followed three days later by another test in which the same subjects responded, not this time with the first brand name that could be recalled, but with the brand name of the article actually used by the subject. After an interval of four months the first experiment was repeated on as many of the original group of subjects as could be reached.

Two facts of considerable importance stand out as the result of this study:

1. There is a discrepancy between brand name recalled and brand used, or between association reaction and use. Disregarding sex differences and combining the records for men and women, it appears that there is agreement in 58.2% of the cases and disagreement in 41.8% of the cases. These figures agree surprisingly well with those just quoted to the effect that use determines the response in about 50% of the cases.

When the commodities are grouped into three classes, namely, "clothing," "other essentials," and "luxuries," it is reported that the agreement is greatest in the case of "other essentials," next in the case of "luxuries," and least in the case of "clothing."

2. When the two association tests conducted over an interval of four months are compared, subject by subject, there is a lack of consistency. The percentage of the cases in which there was agreement between first and second tests was found to be 48 for the men and 62 for the women.

From the author's conclusions I wish to quote the following passages. Concerning the relation between association and use he writes: "In no instance, however, is this agreement great enough to give validity to the *association tests as*

a final test of the measure of an advertising series." Concerning consistency he writes: "This consistency, or rather lack of it, casts grave doubts upon the validity of the application of association tests in practical situations." Finally, "From both types of experiment we must conclude that, while the association tests may be invaluable to the structuralist in ascertaining how the mind is composed, they do not carry over with equal value to the practical situation such as is presented in advertising. There is many a slip between the thought and the purchase, which is really important in the commercial field, and which is glossed over in an association psychology of advertising. The association test denies the existence of the very things of importance."

ASSOCIATION TEST DOES NOT MEASURE USE

This severe condemnation of one of our highly respected and much used psychological techniques seems to imply that investigators have employed it to determine the extent to which certain branded commodities are used. Looking through the most important studies of this type I have failed to find an instance where the author states his problem to be the discovery of extent of use by way of the association test. For example, in the study by Hotchkiss and Franken, I find the method described as "The Association Method of Testing Brand Familiarity" (title of Chapter II). The following statements are further indicative of the authors' purpose: "Such a study of the *public mind* has recently been made with respect to 100 typical commodities. The results indicate *the degree to which the public is familiar with names and brands, and which brands are more generally known in each field*. By careful analysis of these results it may be possible to discover something of the causes which are responsible for *leadership in the public mind*."

"Certain manufacturers seem to have a clear leadership in their respective fields, at least so far as *public recognition is concerned*."

"In view of these facts, a manufacturer who wishes to be *well known by the public* may well be concerned in discovering to what extent his efforts have been successful."

That the writers were aware of the possibility of careless interpretation of their results is indicated by the following significant statement: "*It must be remembered that the facts secured were merely the relative strength of associations and relative familiarity with names and brands. The subjects were not asked what brands they used or preferred. Any indication of the position of different manufacturers with respect to actual sales or good-will are inferences only.*"

Adams¹ writes thus in his chapter on Association: "It is imperative, therefore, that the advertiser should know how to *make his advertisements remembered by the reader*. Since the basis of all memory is association, it is necessary that we understand the laws of association, both the formation of associations and the laws of recall."

Discussing the association experiment as he applied it to advertising, he says: "This experiment also shows the relative strength of the different associations which have been connected with any one class of objects. It is in reality a measurement of the advertisements which have been most effective with any given individual." The context compels us to interpret this last sentence as referring to the effectiveness in establishing associations and not in making sales. Geissler² found that use was an important factor in determining familiarity but did not attribute a like potency to familiarity in determining use.

It should not be surprising to find no cases where the association test was intended as a measure of use, for there is a simpler method of getting that information which is very much simpler and more direct, namely, *to inquire directly about use*. This is very commonly done. For example, in reading over the sample questionnaires presented by Starch³

¹Adams, H. F., *Advertising and Its Mental Laws*, 1920.

²Geissler, L. R., *Journal of Applied Psychology*, 1, 1917, p. 275.

³Starch, D., *Principles of Advertising*, 1923.

one finds such questions as the following: (Concerning the purchase of raisins) "If in package, what brand or brands?" Also in the same questionnaire we find the following question: "With what other brands of raisins are you familiar?" Starch clearly recognizes the difference between familiarity with a brand and the use of that brand. In another questionnaire we find this question: "What brand of dentifrice do you use?" In still another: "What make of fountain pen does party use at present time?" This is followed by: "What makes of fountain pens can party name without suggestion?" Such information appears to be easy enough to get directly from people without the use of any semi-Freudian technique.

INFORMATION TO BE GAINED FROM AN ASSOCIATION TEST

If the association test will not measure use, will it serve any other useful purpose for the advertiser? The data reported by Laird enable us to answer that it will serve a number of useful purposes. Consideration will be given to a few of these purposes.

1. It will indicate the strength of the associations between a commodity and a brand name. A surprisingly large proportion of modern advertising is of the so-called publicity sort, and is intended to create familiarity with brand names. The degree of familiarity of various brand names for a certain commodity is a matter of considerable importance. It measures, in a way, the effectiveness of the advertising in establishing such associations. Adams reports that "one of the most striking results of the experiment is the fact that those commodities which are mentioned most frequently are, with few exceptions, the ones which are most widely advertised. A second point which is very striking is the number of times an advertised commodity was not thought of." Both these points are of interest. It would appear that one might thus discover the commodities where new brand names could be created with least resistance from names

already established and familiar to the public. And to know that amount of advertising and degree of familiarity are closely related is quite worth while. To know *how* closely related would be more important, and to analyze the cases where there is a discrepancy between amount of advertising and degree of familiarity would be still more important. Much light might be thrown upon the effectiveness of publicity devices by such a study.

2. The discovery of discrepancies between familiarity and use constitutes the most valuable contribution that Laird has made, although these discrepancies were the primary cause of his condemning the test. The search for the causes of discrepancy, and the analysis of special cases of discrepancy should furnish much valuable data for the advertiser. Laird has pointed out some of these causes, but there are still others.

(a) One of the most prevalent causes of the discrepancy between familiarity and use is the very character of much of our modern advertising. Its sole function seems to be to keep a brand name before the public, to make it familiar, to impress it upon the memory. Criticism of advertising of this sort, sometimes called "poster" advertising, is very frequent. Now, it must be recognized that there is a difference between remembering or being familiar with an article and being convinced of its value; that is, being convinced that it is the thing to use. The former may very well exist without the latter. The former depends upon complying with the so-called laws of association, the most important of which are frequency of experience and vividness of experience, or strength of the impression. To arouse conviction regarding the value of a commodity is quite a different matter.

A study of cases of agreement over against the cases of disagreement between familiarity and use, together with an examination of the advertising used in both cases, might do much to show which advertising devices do and which do not

produce conviction as well as memory. The clear understanding of the discrepancy between familiarity and use and its conditions would alone, I believe, justify the use of the association test in advertising work.

(b) A cause of discrepancy suggested by Laird is the financial status of the subject taking part in the experiment. "There is many a slip between the ad. and the lip. These slips may be caused by economic reasons. Especially is this true in the group of subjects used. In most instances they were squeezing an educational opportunity out of limited funds; most of them had to rub the eagle some time before they parted with him. In this they are probably representative of the great bulk of purchasers."

There is great question whether the group of people studied in this experiment constitute an adequate sampling of the population as far as economic status is concerned. Conclusions should not be drawn from an inadequate sample. But, if in the case of any particular commodity, a discrepancy between familiarity and use should appear, and further analysis of this discrepancy should show it to be due to the high cost of the article, such information would be of great value, and the remedy for the discrepancy would be clear. Advertising must convince the public, but the public must also have the capacity to purchase what it is convinced it should have. The adjustment of price to purchasing power is a fundamental rule of marketing which no distributor would knowingly defy.

(c) Habit may be in part responsible for discrepancies between familiarity and use. The advertiser should learn to know the strength of habit if he is to take measures to overcome it. One may be convinced that a new tooth-paste is better than the one he is now using and yet habit will bring about the continued use of the old one. Comparison and analysis of the advertising in cases of agreement and disagreement between "thought habit" and "use habit" may point the way to effective means of dislodging old habits of use in favor of new ones.

(*d*) Another cause of discrepancy which deserves consideration in a study of this sort is the frequency with which purchases are made. Suppose, for instance, that a person buys a watch once in a lifetime. Then after his purchase has been made, there may well develop a discrepancy between familiarity and use and even between conviction of value and use, through efficient advertising. Still, the purchaser may not dispose of his old watch and buy the new one. The three cases of closest agreement between association and use were, for men, the associations with tooth-paste, cigarets, and chewing gum. Such articles offer good opportunity for use to keep pace with familiarity accompanied by conviction. Lack of frequency of purchase should not be thought of as introducing an error into the association test. It constitutes, rather, a factor whose importance in producing a discrepancy between association and use should be investigated in the case of various commodities.

(*e*) Another possible source of discrepancy lies in the distribution of nationally advertised products. One must make his purchases from the kinds of commodities available in his locality but may derive his familiarity with trade names from the reading of nationally distributed magazines. The cases showing least agreement between familiarity and use in the material studied by Laird were candy and fountain pens. (Figures for men only.) The geographical distribution of his subjects, although not given in this report, might form the basis for the interpretation of these figures.

A study of the discrepancies between familiarity and use for different commodities according to geographical location might reveal interesting material in this regard.

SIGNIFICANCE OF LACK OF CONSISTENCY

3. Not only does the discrepancy between familiarity and use offer very suggestive problems for the advertiser, but the lack of consistency between associations taken at intervals of four months may be equally serviceable. It is

customary in studying the reliability of psychological tests to have one group of people take the test more than once and to compare the various performances. If the performance of individuals does not vary from time to time, the test is said to be reliable and the results consistent. But in such cases the function measured is supposed to be stable and the conditions under which the test is given are supposed to be identical or nearly so. Now in the association test the function is not stable but is known to vary according to the accumulation of experiences. In such a test as the Kent-Rosanoff Free Association test the associative connections are well established because of their simple logical character and the frequency with which they have been experienced from early childhood. They are, therefore, fairly stable over long periods. In the case of associations established by advertising, the conditions are often quite different. They are especially suitable for providing a rapidly varying experience. New advertising campaigns are launched to market new products, and old campaigns are modified to meet the new competition. Should one expect that relative familiarity of all or most brand names would remain unchanged during a period of four or five months? A new advertising campaign for tooth-paste or chewing gum ought to show results in less than four months after the campaign is launched. In this constant war of competing brands, degrees of familiarity must change if the advertising is effective. The fact that approximately 50% of the associations changed and that 50% remained the same over a period of four months should not be surprising or disturbing to the advertising investigator.

Such changes should not be looked upon as a source of error in the association test but rather as opportunities to measure changes wrought by advertisements in the reactions of a sampling of the public. When such changes are checked against the advertising used, interesting data may be acquired.

The foregoing statements are not intended to be a com-

plete catalogue of the uses of the association test in advertising or even to include the most important uses. They are simply intended to show a few of the ways in which the test might be usefully applied. For the writer at least, the study by Laird has not only not created the conviction that the association test in advertising is worthless, but on the contrary has revealed a wealth of possibilities in its use still untouched by experimenters, arising from the discrepancy between familiarity and use and between tests repeated after long intervals of time.

One other study¹ may be briefly mentioned. Ten commodity names were presented to a group of 125 people with the request that they mention the trade name of each article that first came into their minds. After this was done, they were requested to state the trade name of the article that they actually used. Whenever there was a discrepancy between the trade name mentioned in the association test and the article actually used by the person, he was requested to give reasons for this discrepancy. The number of cases in which discrepancy occurred was too small to make statistical treatment reliable, but the results were suggestive, and indicated that a more elaborate study would be profitable. The reasons given for discrepancies are listed below in the order of their importance:

Present brand satisfactory.	Not easily obtained.
Some one else does the buying.	Do not like it.
Costs too much.	Do not know.
Just habit.	

It is quite evident that these reasons might form obstacles to buying even when the advertising has been entirely effective in establishing the proper association in the mind. Each one of them presents a series of problems in itself as to how the resistance which it offers against a purchase may be overcome.

¹Rosenfeld, E., *A Psychological Study of the Discrepancy between Familiarity and Use in the Case of Advertised Goods*. M. A. Thesis, Columbia University, 1924 (unpublished).

XXII

BELIEF AND CONVICTION IN ADVERTISING

Analysis of belief. Belief is rarely the result of reasoning. Ideas are uncritically accepted. It is not necessarily the truth that is believed. Sharp conflict with reader's experience should be avoided. Knowledge of radium creates conflict in advertising campaign. Ideas, to create belief, must come from an authoritative source. We tend to believe what arouses our desires, our fears, and our other emotions. Relation between belief and desire.

OUR examination of the literature dealing with the psychology of advertising has revealed numerous articles written upon the effectiveness of various mechanical devices, the attention and memory value of size of space and the position on the page, the influence of color, style of type and its arrangement, the effectiveness of repeating the advertisement, and so forth. The problem of arousing the confidence of the consumer in the article advertised, the conditions on which it depends, how belief in advertisements may be created and how it may be measured have been very lightly touched in experimental studies. The importance of these matters is emphasized in every text-book on advertising, and it should be, for the basis of human conduct is to be found largely in belief. The fact that the American people are each year induced to squander many millions of dollars in worthless securities through the medium of advertising in some form, and that warnings seem quite ineffective in protecting them, makes one curious about the basis of belief in advertising. It is not enough to say that the American people like to be fooled and that there is no scheme too wild to arouse the confidence of a large proportion of them. The advertiser should know that action is dependent upon belief and that belief in advertising depends upon conditions, some of which, at least, are under his control.

Belief is, indeed, a complex mental state and it may depend at any time upon a great variety of factors, the most common of which are listed in text-books of psychology and advertising.

ANALYSIS OF BELIEF

Jastrow¹, in his *Psychology of Conviction*, in discussing the origin of conviction, says, "There can be no question where beginnings lie. The original source of conviction is emotion. . . . The initial factor in the genesis of conviction is the rivalry between reason and emotion . . . the part of reason, as likewise of a less explicit intelligence in the maintenance of convictions that are none the less warmly cherished and embraced, is limited; these limitations form the clues to the understanding of the forces by which beliefs live and move and have their being." As a further condition of belief, Jastrow names "a constant, world-old and ever active factor, which may be called docility, contagion, complacency, imitation, convention—one and all of a nature compact. In this broader view, men's convictions, generation by generation, have been accepted traditionally, as they still are. In every direction of inquiry, beliefs have been embraced, and have kept thinking alive, that to later, more enlightened views appear strange, fanciful, and irrational. Most generally, people have believed and continue to believe what they are told and taught to believe. In terms of efficiency this factor in the psychology of conviction dwarfs all others, and may throw them out of perspective. Men of affairs as well as psychologists must continue to reckon with this comprehensive and insistent—whether wise or unwise—imitative—conservative tendency.

"If this approach is rightly set, the chief determinants of the psychology of conviction, with bearing alike upon process and content, are emotion and convention. Fundamentally, beliefs are formed and held because they satisfy,

¹Jastrow, Joseph, *The Psychology of Conviction*, 1918.

because they minister to some deep psychological craving, or some simpler need or indulgence; equally significant is the sharing of such beliefs with others, which is their indispensable social reenforcement and gives the added value of a conscious adjustment and an acknowledged approval."

Robinson,¹ in *The Humanizing of Knowledge*, adds certain conditions of belief: "To be received by the multitude of non-discoverers, an idea must obviously be *acceptable* to them in some way or other. And what are the kinds of acceptability which promote the wise dissemination and the firm and prolonged tenure of beliefs? This is one of the most fundamental of all questions involved in human progress and at the same time one of the most difficult to answer. Indeed, I scarcely think that any one is in a position as yet to answer it.

"For one thing, our acceptance or rejection of an idea or new bit of knowledge depends on unconscious and subterranean situations which are still very ill-understood. These are not amenable to logic as commonly understood, but have a mysterious, pigheaded logic of their own.

"There is also a heavily personal element in belief. 'Truth,' as Lowell ingeniously puts it, 'is said to lie at the bottom of a well for the very reason, perhaps, that whoever looks down in search of her sees only his own image at the bottom, and is persuaded not only that he has seen the goddess, but that she is far better-looking than he had imagined.'

"Without going more deeply into this matter I think that we may safely assume that, in order to gain currency, a new idea must seem 'good,' and mayhap noble, beautiful, and useful, and that it must fit in pretty well with existing notions; or at least must not threaten violently to dislocate the accepted scheme of things. If it is ugly, wicked, discouraging, humiliating or seriously disturbing to the received plan of life, it is likely to be shown the door. Ideas, like kisses, go by favor.

¹Robinson, J. H., *The Humanizing of Knowledge*, 1923.

"The truth of an idea proposed for acceptance plays an altogether secondary rôle. We rank the Good, True, and Beautiful together, but it is shocking to observe how little does the success of a new observation depend upon its scientific or historical credentials. In almost all we hear, read, say, and come to believe, truth, in the scientific sense of the term, is a matter of almost complete indifference. It is irrelevant and may seem an impudent intruder and marplot. We often naively use the word 'feel' for 'believe.' And even the word 'believe' has little to do with evidence or proof but means to cling to something dear and precious, and good in our sight—to accept what we like to accept.

"Man's beliefs had inevitably, in the first instance, to be what suited him and what he naturally and easily grasped and clung to. For it is not the precise truth of an idea, as we have seen, that leads to its wide acceptance, but its appeal—its congeniality to a being with the nature and setting of man.

"When we are told that Kubla Khan a stately pleasure dome decreed, 'where Alph the sacred river ran, through caverns measureless to a sunless sea,' we do not feel obliged to consult a list of Tartar rulers, or locate the sources of the river Alph, or consider the geological formation of limestone caverns. Few will be disturbed by the question of what particular species of wood-louse secreted the honey dew, or the number of bacteria occurring per cubic centimeter in fresh milk of Paradise."

We may summarize these opinions concerning belief or conviction about as follows:

1. Belief is a matter of feeling and emotion rather than of reason.
2. The truth is not a primary factor in determining belief.
3. Belief is a personal matter, a fabric of *personal* experiences.
4. Belief has also a social component to be accounted

for by the need for conformity with one's fellows and especially with those in authority.

5. Belief is dependent upon desire—we believe what we want to believe.

The very nature of belief makes it a difficult problem to investigate in connection with advertising. But its great importance is sufficient reason for making an attempt to measure some of its conditions. The following studies are presented as evidence of the methods that may be applied and the results that may be expected from more elaborate investigations. The experiments¹ are described under the five heads noted above.

BELIEF IS RARELY THE RESULT OF REASONING

One does not go through the processes of logic to establish his beliefs. If logic is used at all it is to justify a belief already established. A striking illustration of the separation of reasoning and belief is found in the case of the insane patient who firmly believed himself to be the son of a king, and yet whose reason was intact enough to enable him to solve complicated mathematical problems.

The advertising of the new Gillette razor offered a good opportunity for studying the relation between belief and reasoning.

In 1921 the Gillette Razor Company announced "a new triumph of American inventive genius of startling interest to every man with a beard to shave." The advertisements stated that the "fulcrum shoulder, overhanging cap and channeled guard" were the three innovations which made possible, "for the first time in any razor, micrometric control of blade position." A diagram, reproduced in Figure 87, showed "how the blade is biflexed between overhanging cap and fulcrum shoulder. It is flexed once into the inside curve of the cap. This is the minor flexure—the

¹This material first appeared in the *Journal of Applied Psychology*, 1923, VII, pp. 1 ff—under the title, "The Conditions of Belief in Advertising."



THE CORK-WALL WINDOW *shows how ice is saved*



Patent applied for

• Look for the Cork-Wall Window. It identifies every genuine Alaska Cork-Insulated Refrigerator.

LOOK through the small, round window in the upper left-hand corner of the Alaska Refrigerator. There you will see the actual pebbled cork insulation which keeps heat from stealing in and wasting ice. A wonderful insulating material it is—the most efficient that forty years of our refrigerator building have disclosed.

Before you buy any refrigerator, look for this Cork-Wall Window which reveals the famous Alaska insulation. It is a visible assurance of the kind of insulation used in the Alaska refrigerator wall—

visible proof of the unusual ice economy of the Alaska

It is but one of many Alaska features that you will like. Another is its *full-ice-sweep* circulation, that carries the air over a great ice area and fills the food chambers with a current of crisp, dry air.

These and other desirable Alaska improvements any dealer will be happy to show you. He will also suggest the right size for your needs, at a price that meets your requirements. If you do not know him, write for his name and a free copy of the Alaska book. Address Dept. B

THE ALASKA REFRIGERATOR COMPANY, Muskegon, Michigan

ALASKA

Cork-Insulated Refrigerator

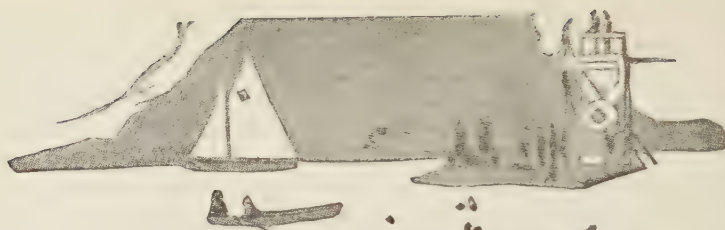
To Dealers: If you are not yet supplying the demand for these better-built, ice-conserving refrigerators in your community, write us for complete information.

Figure 119: An effective advertisement that will not stand the test of logic
(See page 549)

curve for easy gliding action and play of the wrist in shaving. It is flexed a second time—more sharply and in a shorter radius—by the grip of the overhanging cap the whole length of the fulcrum shoulder. This is the major flexure.” This arrangement provided an exactness of adjustment to 1-1000 of an inch. Advertisements containing the above information and well illustrated were given to 57 men, college students and university graduates, together with a series of seven questions intended to test both their belief in the new razor and their understanding of it. The answers to these questions showed that all the students agreed that the new razor was better than the old one, and that they would rather pay \$5 for the new one than \$1 or \$2 for the old one. In supporting their belief they were allowed to consult the advertisement as much as they wished. They quoted the “fulcrum shoulder, overhanging cap and channeled guard,” which made possible “micrometric control of blade position,” but not one of them could explain how the micrometric control was obtained or what advantage there would be in having such micrometric control. They believed that the “channeled guard” was an improvement although they could not tell why it was an improvement. As to the importance of major and minor flexures they were entirely ignorant. Five minutes’ examination of an enlarged diagram of the new razor improved their understanding of the razor little or not at all. Here is a belief effective for the purpose of the advertiser in spite of the inability of the reader to support his belief with reason. This experiment is quoted merely to show that reasoning is not needed to create belief. Whether the space in the advertisement devoted to argument might have been more profitably filled, is, however, an interesting question.

IDEAS ARE UNCRITICALLY ACCEPTED

In the illustration just given, belief was created in spite of inability to follow the reasoning presented in the adver-



Only One in Five *escapes Pyorrhea*

**Will that one be you?
Be sure—use Forhan's**

Dental statistics tell the story. Four out of five over forty years of age—and thousands younger—are victims of Pyorrhea.

Apply the "ounce of prevention" before Nature warns with bleeding gums. Go to your dentist regularly. And brush your teeth at least twice a day with Forhan's For the Gums.

If used in time and used consistently, this safe, efficient, pleasant-tasting dentifrice will help prevent Pyorrhea or check its progress. It will keep your mouth clean and fresh, preserve your teeth and safeguard your health. Ask your dentist. Sold by all druggists, 35c and 60c in tubes,

Forhan's

FOR THE GUMS

More than a tooth paste—it checks Pyorrhea

Formula of
R.J. Forhan DDS
Forhan Company
Coeville, Iowa



Figure 120: A good appeal, as long as it is not subjected to logical analysis

tisement. Many cases may be found in which the statements contained in the advertisement will not stand the test of logic and yet the statements are accepted uncritically and believed. For example, Figure 119 is a reproduction of an advertisement for the Alaska Refrigerator, where the appeal is presented in the headline, "The Cork-Wall Window Shows You How Ice Is Saved." The inference which is intended to be drawn and probably is drawn is that since one may see "pebbled cork" behind the little window the whole refrigerator is lined with "pebbled cork." Without any attempt whatever to imply that the whole refrigerator is not lined with cork, it may still be said that the evidence is insufficient for a critical mind. Nor would the advertisement necessarily be improved by the use of a more thorough demonstration. The point is simply that to carry conviction it is not necessary to satisfy the conditions of good reasoning.

The advertising for "Forhan's" offers another illustration of good advertising which is at the same time not good reasoning (Figure 120). "Only One in Five Escapes Pyorrhea—Will That One Be You?" Now if Forhan's were effective as a preventive of Pyorrhea, that fact would show not in shifting the good luck to escape from Pyorrhea from one person to another, but in changing the proportion from one in five to more than one in five—"More and more people should be escaping Pyorrhea every year—are they?" To use a more strictly correct presentation of the facts would undoubtedly destroy the simplicity and directness of the appeal, and add nothing that for the general reader would be essential. Of course, the disregard of logic may be overdone, with the result that the reader may resist the appeal. This is often true in the case of exaggerated statements. Figure 121 seems to be a case of this sort, where the advertisement makes the claim that "waist and hips may be reduced in ten seconds." However, even here the appeal may find acceptance because of the powerful desire in people for what the advertisement has to offer.

Waist and Hips Reduced in Ten Seconds With New Kind of Girdle

The moment you put on this new kind of Girdle your Waist and Hips look inches thinner—and you **Get Thin** while looking Thin. For this new invention produces the same results as an Expert Masseur. Makes Fat Vanish with surprising rapidity while you walk, play, work or sleep, yet does it so gently that you hardly know it is there. No More Heart-straining Exercises—No More Disagreeable Starving Diets—No More Harmful Medicines—No More Bitter Self-Denials.

At last! A wonderful new scientific girdle that improves your appearance immediately and reduces your waist and hips almost "while you wait!" The instant you put on the new girdle the bulky fat on the waist and hips seems to vanish, the waistline lengthens, and your body becomes erect, graceful, youthfully slender! And then—with every step you make, with every breath you take, with every little motion, this new kind of girdle gently massages away the disfiguring, useless fat—and you look and feel many years younger!

Look More Slender At Once!

Think of it—no more protruding abdomens—no more heavy bulging hips. By means of this new invention, known as the Madame X Reducing Girdle, you can look more slender immediately! You don't have to wait until the fat is gone in order to appear slim and youthful! You actually look thin while getting thin! It ends forever the need for stiff corsets and gives you with comfort, Fashion's straight boyish lines!

Actually Reduces Fat

The Madame X Reducing Girdle is different from anything else you've seen or tried—far different from ordinary special corsets or other reducing methods. It does not merely draw in your waist and make you appear more slim; it actually takes off the fat, gently but surely!

The Madame X Reducing Girdle is built upon scientific massage principles which have caused reductions of 5, 10, 20 even 40 pounds. It is made of the most resilient rubber—especially designed for reducing purposes—and is worn over the undergarment. Gives you the same slim appearance as a regular corset without the stiff appearance and without any discomfort. Fits as snugly as a kid glove—has garters

attached—and so constructed that it touches and gently massages every portion of the surface continually! The constant massage causes a more vigorous circulation of the blood, not only through these parts, but throughout the entire body! Particularly around the abdomen and hips, this gentle massage is so effective that it often brings about a remarkable reduction in weight in the first few days.

Those who have worn it say you feel like a new person when you put on the Madame X Reducing Girdle. You'll look better and feel better. You'll be surprised how quickly you'll be able to walk, dance, climb, indulge in outdoor sports.

Many say it is fine for constipation which is often present in people inclined to be stout.

For besides driving away excess flesh the Madame X Reducing Girdle supports the muscles of the back and sides, thus preventing fatigue, helps hold in their proper place the internal organs which are often misplaced in stout people—and this brings renewed vitality and aids the vital organs to function normally again.

Free Booklet Tells All

You can't appreciate how marvelous the Madame X Reducing Girdle really is until you have a complete description of it. Send no money in advance—just mail the coupon below and learn all about this easy and pleasant way of becoming fashionably slender. Mail the coupon now and you'll get a full description of the Madame X Reducing Girdle and our reduced price, special trial offer.

THOMPSON BARLOW CO., INC.
404 4th Ave.
Dept. G-193 NEW YORK



The Madame X Reducing Girdle takes the place of stiff corsets and gives you with comfort Fashion's straight, boyish lines. Makes you look and feel years younger.

Thompson Barlow Co., Inc. Dept G-193
404 4th Ave., New York

Please send me, without obligation, free description of the Madame X Reducing Girdle and also details of your special reduced price offer.

Name

Address

City..... State.....

Figure 121: This advertisement contains statements which are difficult to believe because of their exaggerated character. (See page 549)

For we will find later in this chapter that people "believe what they want to believe."

IT IS NOT NECESSARILY THE TRUTH THAT IS BELIEVED

The fact that a statement in an advertisement is true will not guarantee belief on the part of the readers of it. The truth may be too startling and surprising to be believed, and in some cases it might be more effective to tell half the truth than the whole truth. Three advertisements were chosen for investigation in this connection, each of them presenting rather unusual information. In each case the truth of the statements made was vouched for by reliable individuals. Each of the advertisements was presented to 100 people, together with a series of statements about them. The individuals were asked to check those statements that most nearly represented their opinion about the advertisements. The statements were carefully prepared so as to avoid suggestion. The studies of the three advertisements will be reported separately:

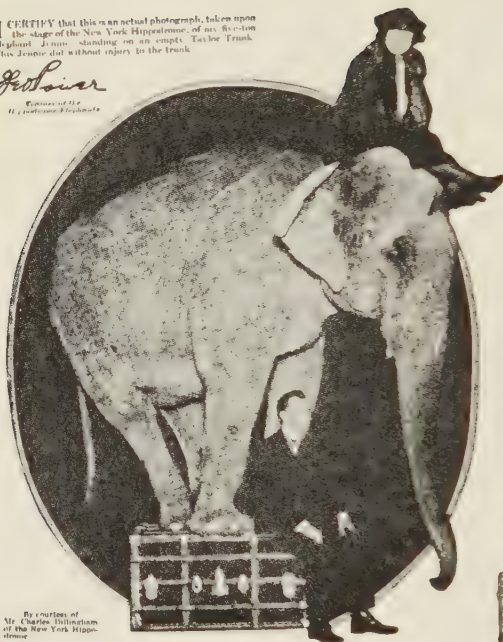
Taylor Trunk Advertisement. This advertisement, which is reproduced in Figure 122, showed the photograph of a huge elephant standing on a trunk. The picture was accompanied by a signed statement as to the genuineness of the photograph, and by statements to the effect that the trunk was taken from the regular stock. Statistical treatment of the replies of the persons tested showed that 38% of them doubted the truth of the statements made in the advertisement; 24% questioned the genuineness of the photograph; and 21% believed that it would be impossible to construct a trunk strong enough to withstand such a weight. That is, in from one-fifth to two-fifths of the persons tested the advertisement created a state of mind adverse to the purchase of the article.

Stanley Vacuum Bottle Advertisement. This advertisement (Figure 123) represented a vacuum bottle falling from

I CERTIFY that this is an actual photograph, taken upon the stage of the New York Hippodrome, of my five-ton elephant Jennie standing on an empty Taylor Trunk. This Jennie did without injury to the trunk.

Robt. L. Taylor

Proprietor of the
New York Hippodrome



By courtesy of
Mr. Charles Dillingham
of the New York Hippodrome

"TRIAL by elephant" is only cumulative evidence of a shock-resisting durability already demonstrated through "trial by hard travel," the kind of daily usage which has made ninety percent of the people who live in trunks—stage, concert and circus stars—put their faith and their costly wardrobes only in Taylor Trunks.

ASK FOR OUR BEAUTIFUL TRUNK BOOK

Information every traveller will welcome is contained in our new Trunk Book. There is information on how to pack a fine wardrobe properly, what to take with you to make your journey really comfortable, how to use your trunk to best advantage—all written by experts who have had the widest travelling experience. The book will be sent free, with the name of the nearest Taylor Trunk dealer. We deliver Taylor Trunks to all parts of the United States.

C. A. TAYLOR TRUNK WORKS, Inc.
CHICAGO, ILL.
In New York at 542 West 44th St., the same
In Chicago at 130 East Randolph Street



SUPPOSE an elephant stood on your trunk!

Unlikely? Yes, but it would be a real test, wouldn't it?

An elephant did stand on an empty Taylor Trunk—a five-ton elephant, Jennie, of the New York Hippodrome.

What happened?

A camera clicked, and Jennie got down, but she will always stand on Taylor Trunks in the form of a trade-mark.

And the trunk? Intact—not even warped! It was a Taylor Trunk.

This test, and the trade-mark which records it, simply typify the strength which has been built into every fibre of Taylor Trunks for sixty years.

The trunk an elephant can't crush, a baggage smasher can't wreck.



You can buy the particular Taylor Trunk illustrated for \$150—tax \$10. It is the kind an elephant couldn't crush—a Taylor Wardrobe. Equipped with everything to keep your clothes uncrushed and uncreased. Sump tually lined, provided with plenty of drawers, hangers, a shoe box, and devices to make packing easy. Yale locks made and out to defy the crackman. Roomy for one wardrobe, not cramped for two.

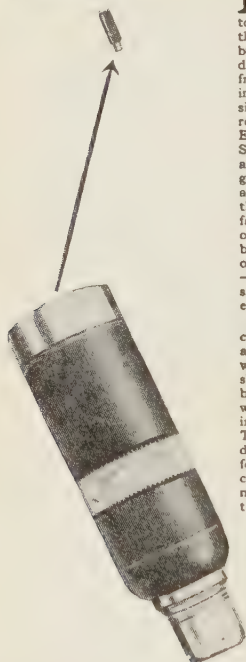
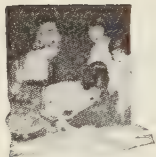
Taylor Trunks

Figure 122: Statements that are too contrary to experience will create doubt.
(See page 551)

a high window, and described an incident in which a Stanley bottle had accidentally fallen from an eighth-story window and suffered only a dent, which did not at all interfere with its usefulness. The replies to the questions submitted with this advertisement show that 31% doubted the truth of the statements, while 22% refused to believe that a vacuum bottle, sufficiently strong to survive the fall, could possibly be constructed.

Edison Phonograph Advertisement. This advertisement pictured one of the well-known "tone test" demonstrations in Carnegie Hall, Pittsburgh. It showed the stage occupied by a well-known singer and an Edison phonograph, with the audience in the background. On the advertisement there were reproduced a number of clippings from the daily papers describing the remarkable demonstration, each clipping making the statement in one form or another that no one in the audience of 2,600 people could distinguish between the voice of the singer and its reproduction. Replies from 100 people to eight questions about this advertisement may be summed up as follows: 77% doubted the truth of the statements contained in the advertisements; 73% believed that they could tell the difference between a real voice and its reproduction by any phonograph; 82% believed that mechanical sounds would betray the phonograph in these "tone tests"; 49% believed that some form of trickery or deception was practiced; 50% believed that the artist intentionally imitated the phonograph; 44% believed that a specially constructed phonograph was used for the demonstration, rather than a stock instrument; 68% believed that *no* phonograph could successfully undergo such a test; 39% stated that an actual demonstration of the "tone test" such as that described in the advertisement would not convince them of their inability to distinguish between the human voice and its reproduction. Figure 124, although not the particular one tested, makes essentially the same statements.

Accidentally dropped from an 8th-story window —it did not break



"I very often happens that myself and a couple of other girls do not get time to go out for lunch, so we hit on the plan of bringing a vacuum bottle full of hot beverage to drink with a luncheon brought from home. The vacuum bottle in question was standing on the sill of an open window in the rest room of the First National Exhibitors Circuit, 6 West 48th St. (8th floor), by which firm we are employed, when one of the girls, without noticing it, leaned against the window, thereby throwing the bottle out. In its fall the bottle hit an extension one story high and from there bounced into a court which was one story below the street level—therefore, the fall really consisted of nine stories instead of eight.

"When the bottle was recovered and returned to us, although it seemed none the worse for the fall except for a slight dent in the body of the bottle and another in the cover, we expected, of course, that the inside was shattered to pieces. To test it we filled it the next day with hot chocolate, and found to our surprise that the chocolate was still hot in the middle of the day when the bottle was opened. I might men-

tion that the bottle referred to had been in service a matter of nine months previous to its eventful fall." Miss Sadie McIntosh, 510 West 147th St., N. Y. City.

It was a Stanley Vacuum Bottle. Not even the terrific impact of a fall from an 8th-story window could break its walls of steel!

The Stanley Bottle is made entirely of steel. It eliminates for all time the expense and inconvenience of broken glass. It can never break.

Naturally the Stanley is more expensive than the ordinary vacuum bottle, but there are no expenses for repairs or replacements. The first cost is the last cost.

Every Stanley Bottle is lined with blue Amalite, a pure mineral coating which is fused into the steel—making a surface like porcelain.

Sold in one and two-quart sizes at all the better stores. An attractive gift for man or woman. Prices (East of the Rocky Mountains), black standard finish: quart size, \$10.00—2-quart size, \$15.00.

Stanley Insulating Company, Great Barrington, Mass. New York Office: 43 Exchange Place.

STANLEY

VACUUM BOTTLE

FERROSTAT

"It will
not break"

Keeps liquids piping hot or icy cold

Figure 123: The story told in this advertisement seems too good to be true.
(See page 551)

Thus far the negative side of the question has been presented. If belief in an advertisement does not depend upon the truth of the statements made and does not depend upon the reasoning of the reader, on what does it depend? To state the matter simply, we may say that ideas which are present in the mind and are not interfered with by any opposing ideas will be believed. This is merely a bare statement of the law of suggestion and to comply with it in advertising, conflicting ideas should be prevented from entering the mind. There are many conditions on which such undisturbed acceptance of ideas depends. Only three will be mentioned here.

SHARP CONFLICT WITH READER'S EXPERIENCE
SHOULD BE AVOIDED

Introspections volunteered by many of the 100 subjects who served in the experiments just described indicated that their past experiences with trunks, vacuum bottles, and phonographs furnished conflicting ideas which the advertisements were not sufficiently powerful to overcome. This was especially true in the case of the phonograph advertisement, where doubt was expressed in a large percentage of the cases.

An experimental study of an advertising campaign that failed showed clearly the need for complying with the conditions of belief. "Radior Products," a series of toilet preparations, were introduced into this country by an English firm. The appeal contained in the advertising may be illustrated by the following quotation taken from one of the advertisements (Figure 125): "Radior is the magic new word in the book of beauty. It means the triumphant union of the finest complexion preparations with actual radium. Its content of radium works the miracle of nature. It purifies the skin, gives it the health to regain its youthfulness and loveliness." The container of these preparations was represented as emanating rays which were very suggestive of bolts of lightning. These toilet preparations could not

be sold—the campaign had failed. Why? One possible reason for the failure was that the suggestion to apply radium on the skin for toilet purposes conflicted too sharply with people's opinions about radium. In order to discover what people believed about radium, a questionnaire was carefully prepared in the form of a True-False test and submitted to 400 people, comprising a well-to-do, well-educated group, a group of average intelligence and financial standing and a special group of persons working in "Beauty Parlors." The questionnaire is reproduced below. It was constructed so as to minimize the influence of suggestion and to correct for it when it did occur, as, for instance, in combining replies from questions 2 and 7. Questions 3, 5, and 10 were introduced as fillers and had no special significance.

Read the first statement on this sheet. If you *feel* that it is true, underline the word "True." If you feel that it is false, underline the word "False." Then judge each of the other statements as true or false. If you do not know, guess at it. This sample statement is false and is marked as it should be:

There are eight days in the week.....	True	<u>False</u>
1. Radium is a deadly poison.....	True	False
2. Radium is so costly that it cannot be used for commercial purposes.....	True	False
3. Treatments with radium will make the hair grow.....	True	False
4. Radium is used in the treatment of such diseases as cancer.....	True	False
5. Radium is a substance which gives off light...	True	False
6. Radium, when applied in diluted form, gives a healthful stimulation to the skin.....	True	False
7. Radium is now used in the manufacture of many products in common use.....	True	False
8. Radium causes burns when it comes into contact with the skin.....	True	False
9. Toilet preparations containing radium are to be recommended for their beneficial effects...	True	False



THEN—
She suddenly stopped
singing. The New Edison
took up her song and con-
tinued it alone.

no difference!

direct comparison. Not one of these 4000 audiences was able to distinguish between the artist's original performance and its Re-Creation by the New Edison.

MR. EDISON spent seven years and three million dollars in bringing the New Edison to this perfect realism. How he was led to concentrate upon realism was recently told by Mr. Edison himself.

"The ordinary phonograph, as we have known it, falls somewhat short of conferring upon its owner all of the pleasure and benefits that can be derived from good music. The greatest shortcoming of the phonograph was its lack of realism, and it is this shortcoming which I have sought to overcome. The result is a degree of realism in our present phonograph which is baffling to even the most expert ears."

And Mr. Edison goes on to reveal the in-

spired purpose which the New Edison, through its realism, is to serve.

"I have been quoted as desiring to see a phonograph in every American home. What I actually want to see in every American home is music, so realistic and so perfect in its rendition as to be an unending source of benefit and pleasure."

YOUR Edison dealer has arranged an extremely interesting test for you. Go and ask for the "Personal Favorites" Realism Test. He will have the New Edison Re-CREATE the kind of vocal or instrumental music which affects your emotions most keenly. You will thus be able to determine for yourself if the New Edison brings you all the emotional pleasure and mental stimulation which come from listening to the living artist.

THOMAS A. EDISON, INC., Orange, N. J.

The **NEW EDISON**
"The Phonograph with a Soul"

Figure 124: Many persons doubted the genuineness of the test described in this advertisement. (See page 553)

Radium and Beauty

RADIOR is the magic new word in the book of beauty. It means the triumphant union of the finest complexion preparations-with actual radium.

You would instantly choose Radior Peau de Velour for the silky smoothness of its cream—for the rare charm of its fragrance.

But when you apply Radior Peau de Velour to your face, then comes the real revelation. For its content

of radium works the miracle of nature. It purifies the skin—gives it the health to regain its youthful freshness and loveliness

Try Radior Face Powder and Radior Vanishing Cream. All the Radior preparations are exquisitely fine, exquisitely helpful. In England (where they originated) women of fashion have made them the basis for a new beauty culture.

RADIOR CO., LTD., of London

Radior

The Radior Preparations are sold at all shops and stores which serve women of taste

Write for the most interesting beauty book of the year—"Radium and Beauty".

GEO. BORGFELDT & Co.
Sole Distributors
16th Street and Irving Place
New York

Figure 125: An advertising appeal should not conflict too strongly with popular beliefs. (See page 555)

- | | | |
|---|------|-------|
| 10. Certain forms of radium can be obtained at little cost | True | False |
| 11. Radium preparations should not be used except on the advice of a physician..... | True | False |
| 12. Radium products are gaining popularity as mild stimulants to health and growth..... | True | False |

Read the following question and answer it by underlining "Yes" or "No":

If you should be told that there was a toilet preparation of high quality and moderate price and which contained a minute quantity of radium, would your knowledge of the effects of radium be such as to make you want to buy it?.....Yes. No.

KNOWLEDGE OF RADIUM CREATES CONFLICT IN ADVERTISING CAMPAIGN

Nothing need be said here concerning the difference in the reactions of the different groups to the questionnaire, except that the most intelligent group had the strongest reaction against radium-containing products, and that the "Beauty Parlor" workers had the least antagonism. Inquiry among these people indicated that some of them had confused radium with the violet ray which was at the time a very popular form of treatment with them. The results of the study of the questionnaire may be summarized as follows:

Forty-eight per cent of the persons tested believed that radium is a deadly poison; 80% believed that it causes burns when it comes into contact with the skin; 89% believed that radium preparations should be used only upon the advice of a physician; 71% said that they would not buy any kind of toilet preparation that they knew contained even a minute quantity of radium; 90% thought of radium as a substance used for the treatment of cancer. The whole experiment may be summed up in the statement that about 70% of all the replies indicated opinions unfavorable to radium-containing products as toilet preparations. The basis of this unfavorable reaction could easily be traced to the people's accumulated experiences of radium. Clippings

of all articles dealing with radium and appearing in newspapers and magazines were collected for a short period. Practically all of them emphasized the harmful effects of radium and the dangers incurred in handling it, instead of any beneficial properties it might possess.

This is a clear case of the inability of an advertising campaign to overcome the resistance established by experience. To create a favorable attitude toward radium-containing products as toilet preparations by an educational campaign conducted in newspapers and magazines might have been possible. But it certainly would have been impracticable.

The mass of experiences upon which beliefs rest is gradually accumulating and being modified by additions. As some one has said, "Confidence is at the same time stable and fragile." It is stable because of the bulk of experiences on which it rests; it is fragile because it is subject to change from new experiences. A supposed bargain which is found to be not a bargain, a derogatory newspaper report about a store, a misprint in the advertised price of an article; any one of these may be the experience that will introduce a conflicting idea into the mind of a consumer and upset the conditions favorable for his belief. The advertiser, appealing as he does to populations, cannot take account of the shiftings of individual experience and belief, but he must take account of the wide-spread and slowly accumulating experiences which may amount to powerful prejudices against his appeal.

IDEAS, TO CREATE BELIEF, MUST COME FROM AN
AUTHORITATIVE SOURCE

This is a well-known law of suggestion. The hypnotist can do nothing without his air of authority and the subject's recognition of it. We are accustomed to believe the statements made by a person in whom we have confidence, and to believe what is printed in a medium which we consider

authoritative. Even if there is conflict with our own experience, we will sometimes accept the contrary experience of another person as a basis for belief, if we have sufficient confidence in the other person. But even then the new experience dare not be too conflicting. Advertisers have for years striven to develop an atmosphere of confidence and authority by all the devices at their command. The experiment to be described was intended to measure in a tentative fashion the degree of confidence which an advertisement can create in comparison with other forms of publication. I have compared the degree of belief or doubt aroused by the three advertisements previously described (namely, Taylor Trunks, Stanley Vacuum Bottles, and Edison Phonographs) with the belief aroused by essentially the same statements coming from a reputable journal. In order to make such a comparison, the facts stated in each advertisement were prepared in the form of a news item abstracted from an engineering magazine. (See sample below.) These abstracts were presented to a group of 100 persons of the same general character as those tested in the earlier experiments, but who knew nothing of those experiments or nothing of the purpose of the present experiment. Along with the abstract of each advertisement was a series of questions as nearly as possible like those used in the test with the advertisements. As far as we were able to ascertain, no one doubted the authenticity of the news abstracts. Instead of reporting the results of the three questionnaires in detail, it will be sufficient to compare for each of the three cases the number of replies indicating doubt in the advertisement and doubt in the news item. It must be remembered that the news item mentioned no trade-named article nor indicated any connection with specially advertised goods.

The following is an extract from———Magazine of June, 1921. Read it carefully and then answer the questions given below, by scratching out with a pencil the part of each that does *not* give your opinion.

A new type of wardrobe trunk was recently put through a

remarkable test of strength. The five-ton elephant belonging to the New York Hippodrome was made to stand on the empty trunk. An examination of the trunk following the test showed that it had withstood the great shock without damage.

Interesting photographs were made of the test, showing the elephant mounting the trunk, seated upon it, and then stepping off it.

1. I believe—doubt—do not believe—the statements made in the above extract.

2. I feel that the photographs that portray the test are—are not—genuine.

3. I do—do not—believe that a trunk could be made strong enough to successfully undergo the test described.

The percentage of persons expressing doubt concerning the truth of the advertisements and concerning the truth of the “news items” is given in the following figures:

Article	In the Ad- vertisements	In the News Items
Taylor Trunks	28%	43%
Stanley Vacuum Bottles.....	27%	43%
Edison Phonographs	55%	40%

In two of the cases it will be noted that there was greater confidence in the advertisement than in the news clipping, while in the third there was greater confidence in the news clipping. An examination of the three advertisements did not afford an entirely satisfactory explanation for the shift of belief in the case of the third advertisement. It seems safe to conclude from these records that although belief in certain advertisements may be low, they may carry at least as much authority in presenting a set of facts as can be conveyed by a news article. The doubt in the cases we have studied is the effect rather of conflict of ideas with experience, than the effect of the use of an unauthoritative medium of expression. Introspections volunteered by the subjects suggest that illustrations and especially photographs used in the advertisements tend to strengthen belief. Unless one suspects trickery, as some of our subjects did, looking at a

picture ought to carry with it greater weight in establishing belief than merely reading printed matter. Even if Mark Twain was right in advising that one believe only half that he sees and nothing that he hears, the advantage in favor of the picture is obvious.

WE TEND TO BELIEVE WHAT AROUSES OUR DESIRES,
OUR FEARS, AND OUR OTHER EMOTIONS

I have no experimental evidence to offer from the field of advertising, but evidence for the importance of this factor may be drawn from psychology. Wm. James has said, "A man who has no belief in ghosts by daylight will temporarily believe in them when, alone at midnight, he feels his blood curdle at a mysterious sound or vision, his heart thumping, and his legs impelled to flee." In strong emotion we might find the condition responsible for the belief in the bargain counter. The politician finds no difficulty in honestly believing what best fits in with his aspirations, while his opponent may as honestly believe the opposite and for a like reason. If a person really wants a certain suit of clothes or an automobile which costs more than he should pay, he may honestly believe that he is making an economical purchase. Once a belief has been established in this way, logic and reasoning may be used to support it.

Lund¹, by ingenious experimental methods, has recently shown that there is a close relation between what we believe and what we desire. He took a series of statements ranging all the way from those which are generally considered axiomatic to those which seem at present merely a matter of personal opinion. These statements were evaluated, by use of the rating scale method described in Chapter V, according to the following criteria:

1. The degree to which they were believed;

¹Lund, F. H., "The Psychology of Belief: A Study of Its Emotional and Volitional Determinants," *Journal of Abnormal and Social Psychology*, 1925, XX, pp. 63 ff.

2. The degree to which their truth was supported by evidence;
3. The degree to which their truth was desirable for the person making the judgments.

RELATION BETWEEN BELIEF AND DESIRE

The relationship between belief and evidence, and belief and desire may be expressed in terms of coefficients of correlation. Whereas the correlation between evidence and belief was $+.42$, that between desire and belief was $+.88$. This means that although one's beliefs ought logically to rest upon the foundation of evidence, they do not depend upon it so much as they do upon what one *wants* or *desires*. The relation between what is wanted and what is supported by evidence is indicated by the coefficient of correlation of only $-.03$, which means that there is no positive relation at all between our desires and evidence.

This close relationship between belief and desire, which has long been suspected and now has been experimentally demonstrated by Lund, gives one more argument for the great importance of a knowledge, on the part of the advertiser, of human desires and motives. They form the basis of all our wants, they guarantee that attention will be attracted and held, and, finally, they influence belief.

These five conditions of belief which I have described represent five important variables in the formula for advertising success. For most advertising situations they are unknown variables which may interact in a very complex manner. But they may be discovered by careful examination. That they are not always sought or discovered, is clear from the cases I have cited, which were taken from advertising already used. Three questions might well be asked about every advertisement: (1) What adverse beliefs and experiences does it have to meet in the minds of consumers? (2) Will the authority which it wears by its mode of presentation or by the medium in which it appears enable

it to create belief? (3) Does the appeal used arouse desires which will in turn create belief in the advertised article? These are human-behavior questions that psychological methods will enable the advertiser to answer before the advertising is used as well as after the money has been spent upon broadcasting it

XXIII

THE MECHANISM OF THE RESPONSE TO ADVERTISING

Association is the basis of reaction. The mechanism of suggestion. Suggestion and advertising appeals. Functions of the "short circuit" and "long circuit" appeals. The varied applications of the "short circuit" appeals. Suggestion depends upon the degree of attention. Suggestions should be indirect. Habits set a limit to the effectiveness of suggestions. Suggestions depend upon the authority of their source. The testimonial letter. Suggestions should be positive.

THERE has been no attempt in this book to trace the reaction to an advertisement through a series of stages from the moment the eye falls upon it until the consumer responds by purchasing the advertised article. The reader will have discovered before this that the processes involved in the human reaction to an advertisement are too complex and too much interwoven with each other to permit of analysis into a chain of distinct and loosely connected operations, each to be examined in isolation from all the others. He will have discovered that the vital things to know are that the human being always needs and wants certain things—wants them naturally or because he has been made to want them; that these wants can be catalogued more or less completely; and that they can be appealed to through the medium of advertising. It is only where the want lacks force or where there is a great variety of means of satisfying it, which differ little one from the other, that all the devices of the sciences and the arts need be called upon to make an appeal effective. The creator of advertising finds himself face to face with just such a problem. How greatly do the 38 different brands of cigarets, which are known to the public, really differ in satisfying a want? Experiment is said to have demonstrated that a blind-fold person cannot, by smoking them,

distinguish one from the other. How greatly do the 30 brands of tooth-paste differ in the power to satisfy a want? All of them will probably clean the teeth and do little or nothing more. The skilful use of color, the turn of a phrase, the timely illustration, and the novel setting, or perhaps just the continual use of big space properly placed will throw the balance the little bit that is needed to bring favor to one brand rather than another. It is in the belief that the knowledge of the mechanism of human reaction may contribute something to its control that this chapter is written.

ASSOCIATION IS THE BASIS OF REACTION

When we inquire why or how any human action occurs, we find ourselves returning to the law of association which was found to be the basis of memory. This law of association is generally believed to be a physiological law as well as a mental law. From the latter point of view one may speak of an association between ideas or things; from the former point of view one may speak of connections among neurons, the elementary structures of the nervous system. To provoke a given response, we have to satisfy the law of association. Barring the case of reflex responses in which the advertiser has little or no interest, we can say that a response tends to occur when a certain idea with which it has been associated is present in the mind. We have to emphasize the word *tend*, because there may be a great many types of response associated with a given idea, and that one will occur whose bond with the idea is strongest. When only one kind of response has been associated with a given idea, prediction of the response upon the appearance of the idea may be definitely made. The only difference, therefore, between recall of ideas and the making of reactions is that in the former case the two items that are associated are ideas and, in the latter, one is an idea and the other a movement or series of movements.

A few illustrations will make this mechanism clear. If,

while engaged in conversation, one happens to glance at one's coat sleeve and sees a speck of dust upon it, one will at once brush it off, without thinking about it. The habit of keeping one's clothing clean has been so well established that the sight of the object leads directly to the appropriate response for removing it. Many persons, walking along the street, will stop and pick up a pin that catches the eye just because such a habit has been established, even though they have no use whatever for the pin. There are some persons who cannot walk along beside a picket fence without trying to touch every picket, because such a reaction has, at the moment, the advantage of stronger connections than other reactions. If one has established the habit of jumping out of bed at the sound of an alarm clock, then on any particular occasion when that sound occurs the characteristic reaction will follow, unless some other conflicting association is stronger, for instance, such as the idea that it is Sunday morning and that late rising is permissible. It is said to be a favorite trick of a certain type of salesman to play upon this form of association in getting orders. He lays down an order blank before a prospect and during his conversation hands him a fountain pen open and ready to use. The customer takes it and reacts in the most customary fashion by "signing on the dotted line." The technique of this trick is so well developed that it is known that if one lays the pen down instead of extending it toward the prospect the reaction is much less likely to occur.

This simple form of behavior which follows the presence of an idea is extremely common in every-day life and relieves the mind of a great burden of detailed control. The occasions are few in which the advertiser can play upon this form of response. The drug-store counter, laden with its variety of package goods, invites such a response. It seems to say to the passerby, "Take one," and as long as no contrary idea comes to mind, the buying reaction will follow. The regular smoker, doubtless, makes his purchases in somewhat the same fashion. Whenever he gets near the kind of

store at which he is accustomed to make his purchases, his habitual buying reactions are shunted into service. One reads an advertisement and gets the idea of signing the return coupon for a sample package. If that idea is not inhibited by a more potent one, such as, "I have no pen handy," "Too much trouble," "I will wait till a more convenient time," or the like, the appropriate reaction will follow. The advertising slogan, "Obey that impulse," tells the whole story. The behavior is impulsive, unthinking, habitual.

THE MECHANISM OF SUGGESTION

Although this reaction mechanism is simple, as we have outlined it, nevertheless it forms the pattern upon which all the more complicated forms of behavior are built up. The process of establishing associations between ideas and actions constitutes learning, and in the adult and older child there are thousands of such connections established and ready for use. The problem of the advertiser in controlling action seems then to involve two important factors, namely, *getting an idea into the mind, with which the act of purchase will be associated, and seeing to it that no conflicting ideas shall enter to compete with it.* This is nothing more than the problem of suggestion which may be defined as *the entrance of an idea into the mind from without, unopposed by any conflicting ideas and leading to the action with which the idea has been associated.*

The first section of this book has been concerned with the problem of getting the idea into the mind by means of the selection of the proper appeal and the most effective presentation of it. The chapter on "Belief and Conviction" dealt with the question of the prevention of conflict in the mind of the buyer. This is done by engendering belief that the article is the best, and inhibiting any suspicions to the contrary. There remain to be presented in this chapter some of the important special laws of suggestion which tend

further to prevent unfavorable ideas from encroaching upon those intended to be established by the advertising. Most of them have been met before in our consideration of such problems as attention, memory, and belief.

SUGGESTION AND ADVERTISING APPEALS

Before giving these laws, however, the reader should be reminded again of the various forms of appeal discussed in Chapter II, namely, the appeal to fundamental desires or the so-called "short circuit," the appeal to reason, or the "long circuit," and the "rationalized" appeal. He should examine them in the light of our definition of suggestion. It will be seen at once that whereas the "short circuit" appeal attempts to stimulate action by a direct attack upon some fundamental human desire and to give no chance for competing or conflicting ideas to enter the mind, the "long circuit" appeal courts such conflict. It is a reasoning, argumentative type of appeal, making a case in favor of a given commodity, but at the same time inviting challenge and attack upon its arguments. The expectation is, of course, that the favorable arguments will be strong enough to win, but the fact remains that conflict is invited. There is always the chance that the contrary arguments arising out of the experience of the prospects will win, while in the "short circuit" such danger is avoided. The "rationalized" appeal, it will be recalled, differs from the "long circuit" appeal in that the desire is first aroused and is merely supported by reasons, whereas in the "long circuit" appeal the desire can only follow the favorable outcome of the argument, that is, one comes to desire that which one decides is the best. In the "short circuit" appeal everything rests upon the stimulation of the desire. It would seem then, as stated earlier, that the "short circuit" appeal is the most effective where it can be used; and modern advertising has demonstrated that there are very few commodities that cannot be effectively advertised in this way.

FUNCTIONS OF THE "SHORT CIRCUIT" AND "LONG CIRCUIT" APPEALS

The functions of the "short circuit" and "long circuit" appeals are thus described by Hollingworth.¹

The "short circuit" appeal is well adapted:

1. For all *personal* articles, the use of which is *intimate* and *private*, as toilet articles, gifts, stationery, and so forth;
2. For articles of *luxury*, *display*, and *adornment*, as jewelry, fancy dress goods, feathers and plumes, flowers, and so forth;
3. For articles enjoyed *in themselves* or *for their own sake* rather than for remote service which they may render, as drinks, musical instruments, sweetmeats, toys, and so forth;
4. For articles calculated to promote the *bodily safety* of the individual or of those dependent on him, as disinfectants, safety devices, insurance, weapons of defense, and so forth;
5. For *all food products*;
6. For all clothing which tends to be ornamental rather than utilitarian in character, as ties, collars, laces, canes, and so forth.

The "long circuit" appeal may also be used to reenforce the strength of many of the "short circuit" appeals used in such cases as those just enumerated. (This would be the rationalized type of appeal.) But it is especially fitted, by its nature and by the way in which it will be reacted to, for articles which are the reverse of these in character; for articles which are in themselves, or from the use to which they are put, impersonal, utilitarian, instrumental; and for articles which are intended not so much to fill present needs only, but also to create new needs or desires—such articles as books, plows, buttons, hammers, trucks, and so forth—in general, those things which partake of the nature of a tool.

THE VARIED APPLICATIONS OF THE "SHORT CIRCUIT" APPEAL

This inventory demonstrates the wider and more varied service that may be performed by the "short circuit" appeal. Even a tool may be made to take on something of a personal touch. It is one of the outstanding achievements of modern

¹Hollingworth, H. L., *Advertising and Selling*, 1913, pp. 245 ff.

advertising that it is able to weave romance and emotion into the most utilitarian of articles. The once unsightly cellar furnace is made to glow with hospitality, the automatic heat regulator lies at the basis of social prestige, the linings of our houses radiate warmth and comfort and make the whole family healthy and happy. The vacuum cleaner, the wall brush, the refrigerator, that once were utilities without personality, are made into sources of family pride. Even those articles classed by Hollingworth as personal, intimate, and private, were once mere utilities and owe their transformation largely to advertising. The family bottle of Listerine, the jar of Vaseline, the box of French Chalk for the teeth, the can of Talcum Powder no longer exist as such for they have become the personal, private, and intimate things of today. Many of the great advertising successes when analyzed are due to the happy discovery of a way to put *life* into a commodity which formerly was a lifeless utility.

Our brief description of suggestion and its characteristics indicates that it is not an evil influence rarely exerted but that it is one of our most common behavior mechanisms. Every human being is suggestible and should be. When suggestion is used to implant, in the minds of the public, ideas that are good and lead to actions that are beneficial, both the public and the advertiser may profit. The great power of suggestion, when skilfully used, was splendidly demonstrated in the propaganda carried on during the war, much of it through the medium of advertising. It demonstrated the effectiveness of all the laws of suggestion to be enumerated below:

I. SUGGESTION DEPENDS UPON THE DEGREE OF ATTENTION

The law of suggestion that is at the same time the simplest and the most important is that *the power of an idea in leading to action depends upon the degree of attention to the idea*. The easiest way to avoid competing and

interfering ideas is to draw the attention to the desired idea. In that way all others are eliminated. Hypnotism, an extreme form of suggestion, involves such a complete control of attention that one idea and one only can occupy the mind. If a hypnotist points toward the floor and says to his subject, "Dive into that pool and swim," the subject will dive to the floor and go through swimming motions simply because the idea that he sees a swimming pool is implanted in his mind and the contrary idea cannot enter. The milder forms of suggestion differ from this in degree only. All the attention devices, therefore, which have been previously described help to support the suggestive power of the advertisement as a whole. The illustrations of the mechanical attention devices shown in Chapter VII will illustrate this point.

2. SUGGESTIONS SHOULD BE INDIRECT

The suggestion should be indirect. No one wants to feel that he is under the control of another; every one clings to the notion that he is a free being. Many persons resent the implication that their purchases are influenced by advertising. Such resentment means resistance; and resistance is fatal to suggestion. The individual who can employ the forces of suggestion and still have the ideas appear to arise spontaneously in the mind of the subject is one who is said to be tactful or diplomatic. One of the simplest ways to make suggested ideas in advertising appear to be spontaneous is to disguise their source. This may be done by repetition, and especially by repetition when the advertisement itself is varied from time to time, and when its location is varied. The actual sources of the experience thus become blurred and confused and the idea, having no definite existence, appears to have come from within. We discover, therefore, that repetition of an advertisement with variation which was found to be so effective in controlling attention and memory, contributes its share also in leading

to the response. Figure 22 furnishes a splendid illustration of a suggestion which is indirect and yet forceful.

3. HABITS SET A LIMIT TO EFFECTIVENESS OF SUGGESTION

Suggestion will not be effective against great internal resistance. When ideas, introduced into the mind by way of advertising, meet contrary notions, opinions, and prejudices, the suggestions may fail. This practical question might be raised: "Can suggestion make one change his brand of collar which he has been wearing for years?" We found in our study of "association," reported in Chapter XXI, that habit was one of the factors causing the discrepancy between the brand one knows best and the brand one uses. The advertising may be effective in impressing the product upon the mind, but at the same time it may not overcome internal resistance sufficiently to cause a purchase. The established habits of every individual set a limit to the effectiveness of suggestion.

Another practical question is this: "Can ideas, even though true, be presented in such an exaggerated form as to arouse resistance by exceeding the credulity of the reader?" The experiments reported in our discussion of "belief" and "conviction" make an affirmative answer to this question very probable. This is a point worth noting in the campaign for truth in advertising. By all means, truth should be the aim in advertising, but *truth with plausibility*. It is needless to say that exaggeration beyond the bounds of truth has no excuse. "In circus announcements we expect the unexpected, but the store that exaggerates in its advertisements is simply signaling to the sheriff." It must be remembered, however, that, from the point of view of the consumer, *what accords with his experience is true, and what conflicts too greatly with his experience is to him exaggerated or actually false*. No absolute criterion of the true and the false can take the place of the *ideas* of the true and the false as they actually exist in people's minds.

4. SUGGESTIONS DEPEND UPON THE AUTHORITY OF THEIR SOURCE

The force of a suggestion depends largely upon the authority of its source. We accept what we read in books if the writer is an authority. Indeed, we accept much that is printed merely on the strength of the authority that printed matter carries. We are constantly accepting statements and opinions in our daily life without thinking them out for ourselves, because we have confidence in their source. It was shown in Chapter XXII that advertisements carry a certain weight of authority comparable at least with that of other printed matter. It appeared, too, that pictures that are representative of real scenes carry something of the authority of the reality. To a certain extent at least, "seeing is believing," even when one sees a picture.

The authority device, in the form of the testimonial, is the one that is more frequently used than any other for carrying conviction in advertising. In recent years it has taken on a character scarcely recognizable as the descendent of the testimonial letter of patent medicine fame. When aids to beauty are being advertised, famous beauties give their testimonials; when cleansing preparations are being advertised, manufacturers of famous silks and fabrics lend their authority; when tableware is being advertised, the leaders of fashion testify as to its effective use. There can be no doubt that such use of authority carries great suggestive force. Only occasionally does a misfit testimonial appear in the effort to make use of some popular idol. These cases only emphasize the value of the device.

5. THE TESTIMONIAL LETTER

A very enlightening study of the testimonial has been made by Turner¹ to find answers to the three questions on the following page.

¹Turner, E. M., "The Testimonial as an Advertising Appeal," *Journal of Applied Psychology*, 1922, VI, pp. 192 ff.

1. Does the testimonial writer continue to believe in the worth of the article that he recommended?
2. Does he bother to answer letters of inquiry?
3. Do man and woman testimonial writers differ in their reaction to inquirers?

These are important questions, for they suggest the possibility at least that testimonials that arouse inquiries may do more harm than good by the nature of the replies or the absence of replies.

The commodity studied in this investigation represents a special case since it was of a medical nature and made an especially strong appeal to those whose ailments it offered to cure. It represents a special case also in which testimonial letters are so frequently used as advertising devices. The same type of letter of inquiry was sent to all testimonial writers, 279 in number. The replies were classified as follows:

1. Good—namely, all those replies recommending the article, and which might influence one to buy it.
2. Poor—those which would cause one not to buy the article.
3. Returned—all letters returned by the post-office as unable to locate.
4. No answer—all letters which brought no response and were not returned.
5. Deceased—letters returned advising that person addressed had died.

Only the letters in Class 1 could be considered as helpful in making sales. The data are summarized in Tables 110 and 111, where the replies are classified not only according to their quality, "Good," "Poor," and so forth, but also according to the source of the testimonial, as, for example, "Male," "Female," "Institution," and according to the age of the letter.

It will be noted that only 49.4% of the replies were favorable; that is, about one-half of the letters written to the original testimonial writers elicited favorable replies. Of

TABLE 110
INFLUENCE OF THE AGE OF THE TESTIMONIAL*

Total Number	Over 6 Years Old	6 Years Old	5 Years Old	4 Years Old
	53	85	97	44
Good.	32.1%	45.9%	57.7%	59.1%
Poor.	11.3%	5.9%	6.2%	4.5%
Returned.	24.5%	24.7%	11.3%	15.9%
No Answer.	24.5%	17.6%	19.6%	18.2%
Deceased.	7.6%	5.9%	5.2%	2.3%

*Turner.

the replies, 6.7% were of a nature which would discourage the potential buyer. The remaining 43.9% of letters failed to bring forth a response and thus made no selling appeal whatever. If anything like these percentages holds good in other concerns, the testimonial method of appeal is very wasteful since it favorably impresses only about one-half of the prospective buyers who have actually shown an interest in the article to the extent of writing for advice about it.

TABLE 111
EFFECTIVENESS OF TESTIMONIAL LETTERS*

Total Number	Men	Women	Institutions	Total
	188	82	9	279
Good.	47.9%	56.1%	22.2%	49.4%
Poor.	4.8%	9.8%	22.2%	6.7%
Returned.	21.3%	13.4%	11.2%	18.6%
No Answer.	18.6%	19.5%	44.4%	19.7%
Deceased.	7.4%	1.2%	.....	5.6%

*Turner.

It will be noted that the more recently written testimonials are more effective than the older ones. There is both an increase in the number of "Good" replies and a decrease in the number of "Poor" replies with the greater recency of the letters. Little can be said about a difference in the reactions of the sexes, as the number of cases is not great and the actual differences small. Still, it may be pointed out

"THE WOMEN of the younger set today never permit the strain of many engagements or the attacks of wind and sun to mar the smooth delicacy of their complexions.

"Fatigue and exposure can leave no trace on the skin that is cared for by Pond's Two Creams. They are really remarkable."

Elma Gould

"BEAUTY is the touchstone of life. Without it we might as well live on the burnt-out Moon! So, for her own, for everybody's sake, it's every woman's duty to foster her beauty. She can effectively accomplish this loveliness by the Pond's Method, by using Pond's Two Creams."

Diana Manners

THE PRINCESSE MARIE DE BOURBON
THE PRINCESSE MATCHABELLI
THE VICOMTESSE DE FRISE
THE DUCHESSE DE RICHELIEU
MRS. O. H. P. BELMONT
MRS. MARSHALL FIELD, SR.
MRS. GLORIA GOULD BISHOP
MRS. JULIA HOYT
MRS. CORDELIA BIDDLE DUKE

are among the women of distinguished taste and high position who have expressed approval of the Pond's Method of caring for the skin and of Pond's Two Creams

Figure 126: Samples of modern testimonials used in advertising

that there were more good testimonials written by men than by women, but that more women than men replied to the inquiries, and the discrepancy was relatively greater for the unfavorable than for the favorable. This probably means that women are more conscientious than men both in giving testimonials and in replying to them.

It takes only a casual glance at the testimonials as used in modern national advertising to perceive that there is no expectation of inquiries, but that they are intended to be effective by the mere authority that the names carry. The clippings presented in Figure 126 will illustrate this point.

6. SUGGESTIONS SHOULD BE POSITIVE

Suggestions should be positive rather than negative in tone. One of the most disputed questions among advertising specialists concerns the relative value of positive and negative appeals. Shall he say, "Don't do this," or shall he say, "Do that"? Shall he say, "Don't get sick—wear X rubbers," or "Keep well—wear X rubbers"? The evidence usually cited and drawn from advertising experience is not entirely conclusive, because of the lack of control of conditions under which the evidence is obtained. For example, the great success of "O'Sullivan's Heels" is said to have been built upon the use of the negative appeal to "avoid fatigue." This is essentially a negative appeal. But how can this negative appeal be compared with the positive when the positive was not used under like conditions? One can never tell whether that particular advertising campaign would have been more or less effective than it was, if it had been based on a positive appeal. A wide-spread and continued campaign such as the O'Sullivan campaign, combined with the skilful use of color and all the other attention devices, would be effective regardless of whether a negative or positive appeal were used. The fact is that the positive or negative character of the appeal is only one of the many factors on which success of advertising depends, and may be



Now you can be free from the eternal drudgery of ironing!

ENDLESS ironing week after week, up and down the board, back and forth, back and forth, wearily you push the heavy iron. Each minute the iron becomes heavier and the strain greater. Endlessly the hours drag by. Yet you must iron monotonously on until the last piece is done and your strength is spent.

If this be your lot on ironing day, take the step now that will bring you freedom. Let a Simplex Ironer do your ironing. For with a new Junior Simplex your whole week's ironing is done in a single hour—absolutely without effort! Shirts, sheets,

table linen, dresses, laces, lingerie, all glide through the Simplex while you sit comfortably and merely guide the work with your hands.

The new Junior Simplex costs only five cents per ironing, even less than when you iron by hand. It is no larger than a sewing machine, is easily moved from place to place, and can be used in any home having electricity.

Let us tell you where you can see this wonderful ironer demonstrated. Address the American Ironing Machine Company, 100 East Ohio Street, Chicago, Illinois.



Ironing the Simplex way

SIMPLEX IRONER

"The Best Ironer"

Figure 127: This illustration suggests the eternal drudgery of ironing.

exceeded in importance by one other factor or combination of factors.

Theoretically, at least, the positive suggestion should be the more effective, but the theoretical conclusion must be applied with care to the practical advertising problem. One cannot suggest, "Don't do that," without at the same time arousing the suggestion, "Do that." When the clerk selling radio apparatus to a novice says, "Now, be careful *not* to connect your tubes this way," or "*Never* connect X and Y because if you do you will burn out your tubes," he may be fairly certain that the tubes will be wrongly connected and will be burned out. Even though the negative suggestion is given, it will tend to be reacted to in the positive manner. It is always better to impress the mind with the right course of action than to warn it against the wrong one. We have found that suggested ideas to become effective and lead to action must be free from conflicting ideas. But in the case of negative suggestion, conflict is invited through the tendency for the negative to suggest the positive.

Figure 127 shows the use of an illustration to convey a subtle suggestion. Many of the other advertisements reproduced in the earlier part of this book will illustrate the different laws of suggestion.

This discussion of suggestion may be concluded with the reminder that a response to an advertisement is not provoked by a special set of forces called suggestion, but that every aspect of a well-constructed advertisement contributes toward this end. In fact, the response itself is in a sense automatic, when a desire has been aroused, when a belief has been established that the article advertised will satisfy the desire, and when ideas which would conflict with this belief have been avoided or eliminated. The so-called laws of suggestion that have been mentioned are only ways of attaining these three ends and have no direct potency as stimulators of action.

XXIV

INDIVIDUAL AND GROUP DIFFERENCES

Importance of group differences. Age differences. Four periods of youth. Influence of age upon preferences. Sex differences. Sex differences in personality. Sex differences in reaction to advertising appeals. Sex differences in knowledge of trade names. Sex differences in mediums read. Occupational differences. Reactions of occupational groups to advertising. Similarity in reactions of the occupational groups. Groups agree most in their judgment of poor advertisements. Reading habits of occupational groups. Newspaper preferences of occupational groups. Social and financial differences.

THE measurement of the *behavior characteristics* of human beings leads to the conclusion that individuals differ one from another in every respect in which they have been measured. There is nothing particularly surprising in this discovery, since it is quite generally acknowledged that no two individuals are exactly alike physically. Ordinary observation suggests it, and the possibility of identification of any individual by means of finger prints confirms it.

Individual differences in behavior have a kind of negative interest for the advertiser, in that his main concern should be to avoid catering to them in his advertising. The personal salesman should know as much as possible about the way individuals differ, and his selling strategy should be adjusted to his conception of the make-up of his prospect. The advertiser, who necessarily uses a mass appeal, must get beneath these individual peculiarities, and must find some common ground upon which all people or large portions of them can be met. He should do this by seeking out the motives and springs of action with which human beings are naturally endowed, and the habits which our modern civilization has made almost common property. This book has been concerned thus far with a description

and analysis of the stock of needs, desires, motives, and habits which are the common property of all people, and with a consideration of the means of appealing to them through advertising.

IMPORTANCE OF GROUP DIFFERENCES

Although differences among individuals are necessarily neglected in advertising, it is not possible to neglect entirely certain differences among groups of people. Where a commodity is to be sold to one limited class, it is well to know whether there are any characteristics that are peculiar to that class of people, and to make use of this knowledge in preparing the advertising message. Certain classes or groups within the total population stand out distinctly enough to the ordinary observer to suggest at least the possibility of real differences which warrant consideration by the advertiser. Four such differences will be examined; namely, age differences, sex differences, occupational differences, and differences in financial and social status. In considering these four groups, it will not be possible to keep each entirely distinct from the others. For example, occupational differences and social differences will undoubtedly overlap. This lack of sharp distinction among the groups suggests that more fundamental differences should be sought and, indeed, they might be found. For instance, intelligence differences might be found to be the real factor in age differences, social differences, and occupational differences. To attempt such an analysis at present, however, would involve too many matters which are controversial.

One more point should be settled before presenting evidence concerning these group differences. Are the differences natural differences, inherent in the very constitution of the individual, or are they the product of habit, custom, and tradition? It is impossible to answer this question in every case; and it is also needless to answer it. The advertiser must necessarily appeal to people as they are, and can

have only an academic interest in what they might have been if our social structure had been different, or what they will be like 100 years hence, when our social and material environments shall have radically changed.

AGE DIFFERENCES

The character of the differences among age groups has become a question of great popular interest in the present generation. There is the feeling that a greater gap than ever existed before has been created between the mature and the young, and that the young people not only rule the market as far as their own purchases are concerned, but that they have a powerful influence upon all the family purchases. In consideration of age differences, we can neglect entirely the differences in intelligence, since the age groups in which we are interested are all above the age where adult intelligence has been attained (14-16 years). The differences are rather in the degree of freedom from fixed habits of thought and action, a greater flexibility and willingness to try what is new and different. The young are radicals in the market, while the mature are conservatives. The resistance to new ideas to be met in the young is less than in the old, hence the wide-spread appeal to the young in current advertising.

The reader should refer again to the quotation from William James which appears on page 34. According to him, the period from 20 to 30 is the formative period, not only for intellectual and professional habits, but also for personal habits such as accent, posture, manner, dress, and so forth. After this formative period has passed, "an invisible law, as strong as gravitation, keeps him within his orbit, arrayed this year as he was the last."

An interesting investigation into the age factor in advertising was sponsored in 1922 by *Photoplay Magazine*.¹ It consisted of interviews of prominent business executives together with a statistical study by the questionnaire method

¹"The Age Factor in Selling and Advertising," *Photoplay Magazine*, 1922.

of the buying habits of people in seven typical eastern cities.

A few of the opinions of business leaders will be quoted:

The influence of younger women on the sale of dress goods and wearing apparel, and their eager interest in style generally is so great that it is seldom, in preparing advertising which has to do with wearing apparel, that we do not take them definitely into account. Not alone do they make up an important market in themselves but their influence in introducing new styles and modifying the older ones is always of paramount importance.

————— in the bulk of its advertising makes an appeal to women between the ages of 18 and 30, cognizant that this is the period when women not only have great influence over their elders in the selection of goods, but have become more stable in their judgment of values.

The young girl is buying more than ever before and setting the pace for older people.

Girls do most of their own buying after the age of seventeen or eighteen.

The younger element is fast becoming the buying power in ready-to-wear dresses. Nearly all the dresses are now made to fit their taste. Older people often seek the advice of younger girls and accept it to a surprising degree.

FOUR PERIODS OF YOUTH

The four ages of Youth are thus described in the same report:

1. Narcissistic period—from 18 to 22, when the individual is absorbed in self. Everything that is bought, beyond the bare necessities of life, is for the purpose of gratification and personal enhancement. All articles of personal adornment have a strong appeal.

2. Period of courtship—the age of trousseau-planning and home-planning. Every suggestion for making a home more attractive is eagerly caught up. Every hint for new ways of home-keeping is seized upon.

3. Period of home-building. The most effective appeals are those to healthfulness, cleanliness, efficiency, and all others that contribute to material, social, and financial advancement.



Figure 128: Mother smiles and agrees, and father signs the check; but it is Youth, the exuberant, who buys the car. (*See page 588*)

4. Period of motherhood. All articles for the care and comfort of the child have a powerful appeal.

In the questionnaire investigation of the retailers of various commodities in seven typical cities the following questions were asked:

1. What percentage of all purchases are made by the following age groups?

(a) Under 18 (flapper type)

(b) 18-30 years

(c) 30-45 years

(d) 45 years or over

2. What percentage of all purchases are "double" purchases? That is, the daughter and the mother, or a young girl and an older woman.

(a) When the mother and daughter come together and the purchase is for the daughter, does the daughter invariably make the decision for herself?

(b) When the mother is buying for herself, does she like the advice of a younger person as to style, and so forth?

3. What is the average age at which a girl begins to buy for herself?

4. General remarks on the younger element in buying.

The data obtained from the answers to the first question are reproduced in Table 112.

It is a simple matter to compute from this table the age

TABLE 112
INFLUENCE OF AGE IN BUYING

Product	Under 18	PERCENTAGE OF PURCHASERS		
		18-30	30-45	45-
Ready-to-wear	16	37	29	18
Dress goods	18	37	31	14
Hosiery	17	48	24	11
Underwear	16	45	26	13
Furniture	3	40	36	21
Rugs	2	42	37	19
Draperies	3	42	36	19
Phonographs and Records	14	48	24	15
Wind instruments	26	48	18	9
Pianos	2	36	43	19
Average	11.7	42.3	30.4	20.3

limits within which the bulk of the buying of various commodities is done. For example, 62% of the phonographs and records are bought by persons under 30 years of age, while 62% of the pianos are bought by persons over 30 years of age. Taking the results as a whole, indicated in the averages at the bottom of the table, we find that more of the buying of these 10 commodities is done by persons between the ages of 18 and 30 years than by any other group. In considering these figures, we should not lose sight of the fact that they represent the opinions of retailers and are not the result of the direct measurement or questioning of the consumer. Some support for the validity of the figures is derived from the close agreement in the results for the seven different cities. Table 113 shows the results for each of the cities for one commodity, "Hosiery."

TABLE 113
INFLUENCE OF AGE UPON BUYING IN DIFFERENT CITIES

City Number	PERCENTAGE OF PURCHASERS			
	Under 18	18-30	30-45	45-
1	20	50	20	10
2	11	50	29	10
3	15	55	20	10
4	20	45	25	10
5	15	50	25	10
6	17	48	25	10
7	15	42	27	16

The influence of Youth in modern family purchases is well illustrated in Figure 128.

INFLUENCE OF AGE UPON PREFERENCES

The influence of age upon preferences has been experimentally studied in the case of perfumery. Two groups of people were tested with the following six odors: Rose, Violet, Lilac, Jasmine, French Bouquet, and Oriental Bouquet. Each odor (a high grade of perfumery) was carried by a square of blotting paper lettered for identification and with no indication of the name of the perfume.

In the case of the one group, numbering 200, the subjects were asked to arrange the odors in the order of preference, putting the one most preferred first and the one least preferred last, and the others in their proper position between these extremes. These persons reported their ages to the nearest birthday. In the case of the other group, numbering 3,000, each subject was asked to choose the most pleasing and the least pleasing odor. In this group a statement of age was not requested, but each person was classed roughly into "young," "middle aged," or "old." The results of the study of these two groups of people are given in Tables 114 and 115. The figures in Table 114 represent the average position assigned to an odor according to the consensus of opinion of the persons tested, and the order of preference based on these averages. (See Order of Merit Method, Chapter V.)

The data in Table 114 suggest several interesting points, although the number of cases, in each age group, is scarcely great enough for conclusive evidence. In the case of the women, Lilac is preferred at every age. But the youngest group finds Jasmine its second choice, while the other two groups consider it least pleasing of all. Then, the two

TABLE 114
AGE PREFERENCE FOR ODORS
(GROUP OF 200)

Odor	15-19 YEARS				20-29 YEARS				30 YEARS			
	MALE		FEMALE		MALE		FEMALE		MALE		FEMALE	
	Average Position	Order	Average Position	Order	Average Position	Order	Average Position	Order	Average Position	Order	Average Position	Order
Rose.....	3.62	3	3.56	3.5	3.24	2	3.22	3	3.79	5	3.58	3
Violet.....	3.08	1	3.78	5	3.42	3	2.73	2	4.43	6	3.84	4.5
Lilac.....	3.15	2	2.33	1	2.61	1	2.49	1	2.86	1	2.42	1
Jasmine.....	3.69	4.5	3.11	2	4.05	6	4.89	6	3.71	4	3.89	6
French Bouquet....	3.69	4.5	4.67	6	3.76	4	3.91	5	2.93	2	3.42	2
Oriental Bouquet....	3.77	6	3.56	3.5	3.90	5	3.87	4	3.29	3	3.84	4.5

younger groups like French Bouquet least while the oldest group considers it next to the most pleasant. The six odors seemed more nearly alike to the youngest group than to either of the other two, as indicated by the range of the averages. The difference in range is much more pronounced in the case of the males. The greatest range possible is from 1 to 6, while the greatest range actually found is in the case of the females of the middle age group and is from 2.33 to 4.67 (less than 2.5 steps out of a possible 5.) In no age group, therefore, does one odor stand out as unquestionably the best or the poorest.

The figures in Table 115 show the number of votes cast for each odor as the *most pleasant* and the order of preference based upon the number of votes, consequently the larger the number of votes, the greater the preference. The three groups in the two tables are not exactly comparable, since in the first table they are based directly upon reported age, and in the second the age is simply inferred from personal appearance. Although there are many differences between the two tables which cannot be directly accounted for (see discussion of this material on page 122) there is one rather interesting agreement. The young females rate Jasmine very high in both tables while the two older groups of females rate it very low. Lilac stands high in all cases in the first table and in four of the six cases in the second table.

Some evidence has already been presented in Chapter XVII to indicate that there are certain changes in color preferences with change in age. The most striking change is the shift from yellow, which is pleasing to children, to green which is pleasing to adults. As green becomes more pleasing, yellow becomes less pleasing. Numerous investigators report this same shift in feeling-tone from the red-yellow end of the spectrum to the green-blue end.

These last two studies of the relations of preference to age are presented merely to show the possibilities of applying our measuring methods rather than to offer conclusive

evidence concerning any particular kind of difference. It is not surprising to find that preferences appear to change with age, for it is known that one's acuity of hearing for certain musical tones changes and that one's taste sensitivities change with age. Whether these changes are great enough to become significant factors in the marketing of goods remains to be determined.

TABLE 115
AGE PREFERENCE FOR ODORS
(GROUP OF 3,000)

Odor	YOUNG				MIDDLE AGE				OLD			
	MALE		FEMALE		MALE		FEMALE		MALE		FEMALE	
	Number of Votes	Order	Number of Votes	Order	Number of Votes	Order	Number of Votes	Order	Number of Votes	Order	Number of Votes	Order
Rose.....	25	5	109	6	32	4.5	79	6	1	6	11	5
Violet.....	12	6	207	5	31	6	129	4.5	5	4	13	4
Lilac.....	48	1	229	3	51	2.5	441	1	5	4	70	1
Jasmine.....	29	3.5	261	1	51	2.5	129	4.5	5	4	10	6
French Bouquet.....	31	2	213	4	59	1	162	3	7	1	21	2
Oriental Bouquet.....	29	3.5	237	2	32	4.5	186	2	6	2	19	3
Total.....	174	...	1,256	...	256	...	1,126	...	29	...	144	...

This survey may be concluded with a quotation from the *Photoplay Magazine* study previously referred to:

As far as it is possible to generalize about so broad a subject, Youth is interested in sports and parties, fun and humor, music and dancing, and romance. Youth has aspirations of beauty and grandeur. Youth is profoundly self-occupied with its personal appearance and with its settings as they contribute to its glorification.

Youth, on the other hand, is comparatively cold to considerations of the practical, of utility and price, of durability and healthfulness, of moral and ethical qualities. Youth turns a deaf ear to cautions of protection and fear.

The key to selling to Youth, therefore, is to direct the appeal of your advertising to those impulses which most surely sway Youth; and it is no coincidence that those same impulses are

for the most part the ones which carry most telling weight in good advertisements generally.

SEX DIFFERENCES

The opinion, coming from many sources that 80% of all purchases for the home and family are made by women, has led to the search for appeals that will be especially effective for women, and has centered attention upon the problem of the differences between the sexes. The breaking down of the occupational differences between the sexes which progressed so rapidly during the war has lent additional interest to this question. There has been an attempt to find, first of all, whether the differences in behavior, that are quite evident to any observer, are natural differences or are merely the product of different traditions.

The measurement of what might be called the intellectual traits has served to emphasize the likeness between the sexes rather than the difference between them. Thorndike's¹ conclusion from available data is as follows:

The individual differences within one sex so enormously outweigh the differences between the sexes in these intellectual and semi-intellectual traits that for practical purposes the sex difference may be disregarded. So far as ability goes, there could hardly be a stupider way to get two groups, alike within each group but differing between the groups, than to take the two sexes. As is well known, the experiments of the past generation in educating women have shown their equal competence in school work of elementary, secondary, and collegiate grade. The present generation's experience is showing the same fact for professional education and business service. The psychologists' measurements lead to the conclusion that this equality of achievement comes from an equality of natural gifts, not from an overstraining of the lesser talents of women.

SEX DIFFERENCES IN PERSONALITY

As the reader of this book should suspect, the sex differences of greatest importance for the advertiser are not the

¹Thorndike, E. L., *Educational Psychology*, Briefer Course, 1915, p. 345.

intellectual ones, but differences in interests, desires, emotions, motives for action, likes, and dislikes. Unfortunately these are much more difficult to measure than the intellectual traits, although the former seem the more evident to ordinary observation. These differences are probably traceable to fundamental differences in the instinctive tendencies of the two sexes, as indicated in the following passage from the author just quoted:

Two instincts are worthy of special attention. The most striking difference in instinctive equipment consists in the strength of the fighting instinct in the male and the nursing instinct in the female. No one will doubt that men are more possessed by the instinct to fight, to be the winner in games and serious contests than are women; nor that women are more possessed than men by the instinct to nurse, to care for and fuss over others, to relieve, comfort, and console. And probably no serious student of human nature will doubt that these are matters of original nature. The out-and-out physical fighting for the sake of combat is preeminently a male instinct and the resentment at mastery, the zeal to surpass and the general joy at activity in mental as well as physical matters, seems to be closely correlated with it. It has been common to talk of women's "dependence." This is, I am sure, only an awkward name for less resentment at mastery. The actual nursing of the young seems likewise to involve equally unreasoning tendencies to pet, coddle, and "do for" others. The existence of these two instincts has been long recognized by literature and common knowledge, but their importance in causing differences in the general activities of the sexes has not. The fighting instinct is in fact the cause of a very large amount of the world's intellectual endeavor. The financier does not think merely for money nor the scientist for truth nor the theologian to save souls. Their intellectual efforts are aimed in great measure to outdo the other man, to subdue nature, to conquer assent. The maternal instinct in its turn is the chief source of woman's superiorities in the moral life. The virtues in which she excels are not so much due to either any general moral superiority or any set of moral talents as to her original impulses to relieve, comfort, and console.

Although these non-intellectual traits cannot be objectively measured, adaptations of the rating scale method have furnished data susceptible of statistical treatment. The con-

TABLE 116
SEX DIFFERENCES*

Trait	Percentage of Men Exceeding Median Woman
Accurate and orderly retention of what is read. . . .	73
Love of sedentary games of skill.	71
Independence	70
Zeal for money making	69
Quickness of recovery from grief	66
Noisiness	62
Love of sports	62
Athletic tendencies	61
Humor	61
Self-consciousness	57
Quick temper	56
Intelligence	47
Popularity	46
Ability to write	43
Shyness	42
Conscientiousness	40
Talkativeness	40
Gaity	40
Vanity of person	40
Risibility	39
Sympathy	38
Patience	38
Excitability	37
Religiousness	36
Dissatisfaction with oneself	36
Activity (aimless sort)	36
Impulsiveness	34
Desire for change	32
Emotionality	30
Adroitness in manual work	28
Industry	28
Interest in persons rather than in things	15

*Adapted from Thorndike.

sensus of opinion of various groups of judges has furnished the data for Table 116. The figures are all in terms of the percentage of the men who equal or exceed the median woman. Since the median woman is the one who occupies

the middle (or 50%) position when all are arranged in order of amount, it follows that men and women are about alike in a trait where 50% of the men exceed the median woman. That means that just as many men as women (and no more) exceed the median woman. Hence when more than 50% of the men exceed the median woman, the men excel to that extent; and when less than 50% of the men exceed the median woman, it means that the men are excelled by the women to that extent.

SEX DIFFERENCES IN REACTION TO ADVERTISING APPEALS

The experimental studies of the differences between the sexes in their reaction to advertising appeals have shown little or nothing of significance. The results of such a study were given in Table 2. The greatest differences appear in the case of "appetite," "safety," "nobby," "family affection," "sympathy," "elegance," and "recommendation," which show a higher value for men; and in the case of "time saved," "guaranty," "medicinal," "substitutes," "efficiency," "durability," "quality," and "hospitality," which show a higher value for women. It was pointed out, however, in Chapter IV that the standing of many of these appeals is due to their wording rather than to the intrinsic force of the appeal. This is especially true in the case of the sex differences. Take, for example, the case of the appeal to "family affection," which stands sixth from the highest for men and fifteenth from the highest for women. This is quite the reverse of what one would expect, but the explanation is simple when the appeal itself is examined:

A final day must come to *every man*¹, and no one wants to see his children left dependent on mere accident. You owe a duty of provision and foresight to your family. A 2B7 will guarantee this comfort when you are gone.

The appeal to "hospitality," which stands sixteenth for women and twenty-first for men, reads as follows:

¹ Italics are mine.

Don't be content with envying the successful *hostess*, when you can secure the same keen pleasure for yourself. The homes equipped with 2x4 are known far and wide for their generous comfort and open hospitality.

SEX DIFFERENCES IN KNOWLEDGE OF TRADE NAMES

When an appeal is thus directed to men or to women, that fact must largely determine its relative standing for the two sexes. Naturally an important fact for the advertiser to know is that women use certain things exclusively or predominantly, and men use certain others, although a study by Hollingworth of family purchases shows that the only men's articles bought exclusively by men are collars. In this connection, it is interesting to refer again to the study of the knowledge of advertised brands discussed in Chapter XXI, where the responses of the sexes are reported separately. Even in the case of cigars, which are still looked upon as of strictly masculine interest, there were as many women as men who knew the "Robert Burns" and the "Owl" brands. Out of the 512 of each sex that took part in the test there were 232 women that could name a

TABLE 117

SEX DIFFERENCES IN KNOWLEDGE OF TRADE NAMES

Commodity	Men	Women
Corsets	24	88
Women's clothing	2	43
Face cream	97	108
Face powder	80	111
Sewing machines	409	362
Silk	55	40
Laundry soap	96	96
Rice	35	12
Breakfast food	149	170
Men's collars	421	327
Razors	265	131
Men's clothes	166	107
Shaving soap	169	180

brand of cigar as compared with 396 men. Table 117 shows the sex differences in the case of some other commodities. The records are in terms of the number of each sex that named the best known brand.

The data in Table 117 are open to any one of a number of different interpretations. For instance, is modern advertising made so generally interesting that people read it and remember it regardless of their need for the product advertised; are the appeals and decorative devices equally potent for either sex regardless of the commodity; is each sex greatly interested in the commodities used by the other sex?

The relative potency of the various appeals to the sexes has already been discussed. The studies which have been made of such advertising devices as line form, typography, and color combination show no sex differences of any significance. Only in the case of single colors judged abstractly have some investigators reported a sex difference to the effect that women prefer red and men prefer blue.

The most logical conclusion seems to be that, excluding those cases where instinctive sex differences have been demonstrated, *the attempt to reach a basis of appeal fundamental enough to be unaffected by individual differences leads the advertiser to employ devices which are also too fundamental to be affected by sex differences.* Pride, ambition, beautiful colors, good line form, well-balanced layout, and artistic type-faces will sell men's collars as well as women's corsets, razors, as well as silks, cigars as well as breakfast foods.

SEX DIFFERENCES IN MEDIUMS READ

A problem of quite another sort concerns the mediums which are best adapted for reaching and appealing to the two sexes. These mediums are not so different as they seem at first. Even the so-called women's magazines, such as the *Ladies Home Journal*, *Goodhousekeeping*, *Woman's Home Companion*, and so forth, are family, rather than

feminine, institutions. Both in literary content and in advertising they have an appeal for the two sexes. Nevertheless, the so-called general magazines differ in the proportions of the two sexes that receive them. The data presented in Table 118 show the proportions of men and women who read each of five general magazines.

TABLE 118
SEX DIFFERENCES IN MAGAZINE SUBSCRIBERS

Magazine Number	PERCENTAGE OF SUBSCRIBERS	
	Men	Women
1	82.2	17.2
2	60.6	39.4
3	46.0	54.0
4	43.3	56.7
5	26.4	73.6

These differences are quite large enough to deserve study as to causes of their varying sex appeal. As the information available is not psychological in character, the question of mediums will not be discussed further.

OCCUPATIONAL DIFFERENCES

Outside of trade advertising, occupation forms no very fundamental basis for classification of people. Still, it is one of the most convenient ways of subdividing society. Furthermore, the occupations that people choose and succeed in may be an index of other significant characteristics.

We shall not concern ourselves directly with buying power, as that is closely correlated with income. We should, however, give some consideration to the disposition to buy, which is not necessarily highly correlated with buying power. To take extreme cases, the sailor has the disposition to buy with little buying power, while certain of the well-known religious orders have little disposition to buy with high buying power. Some people's disposition to buy for immediate satisfaction is limited only by their resources,

while others have a relatively strong tendency to accumulate capital. Occupations may differ in this respect merely in the matter of the differing amounts of surplus funds over and above those required for supplying immediate needs. At any rate, no data are at present known to the writer on the *disposition* as opposed to the *power* to buy, although the problem would lend itself to investigation.

Very little study has been given to the question of the effectiveness of various advertising appeals and devices upon occupational groups. No doubt what has been said of the sex differences will hold equally well for occupational differences. When the appeal that is chosen to advertise a given product is a basic one, it will be effective for all people. Starch found a very high correlation between different groups for effectiveness of advertising appeals. The most striking differences found were in the *range of the judgments* of different groups. For example, a group of farmers, studied by Strong, showed a range of only 6 *steps* out of a possible 19 or 20, which means that all the appeals produced about the same effect. Such differences are most likely due to differences in comprehension of the language in which the appeal is expressed rather than to differences in the strength of the appeals themselves.

REACTIONS OF OCCUPATIONAL GROUPS TO ADVERTISING

Through the courtesy of the Advertising Club of New York, the writer was enabled to make a study of the returns from a contest conducted at its First Annual Advertising Exposition, 1923. About 100 advertisements, each with a code number, were displayed, and prizes were offered to the persons who could pick out the best advertisements. There were in the group 32 magazine advertisements, from which each person was to pick the best, next best, and so on, until he had chosen a total of five. Each person taking part in the contest gave his occupation along with other information. There were altogether about 15,000 votes cast.

From these, there were picked, just as they came, votes representing occupations as shown on the opposite page.

TABLE 119

PERCENTAGE OF TOTAL NUMBER OF VOTES CAST BY EACH
OCCUPATIONAL GROUP

(Based on number of votes for first five positions)

Advertisement Number	Clerks and Stenographers	Housewives	Advertising Men	Artists	Salesmen	Students	Editors and Publishers	Professional	Manual Workers	Teachers	Managers and Executives	Range
1	10.7	11.4	8.1	7.2	11.7	10.5	8.9	10.5	11.5	10.0	10.9	7.2—11.7
2	2.1	2.6	2.0	0.8	1.3	1.2	0.9	1.1	1.8	0.5	1.3	0.5—2.6
3	9.7	9.2	10.5	13.0	7.9	7.1	8.7	8.5	8.8	10.0	10.3	7.1—13.0
4	0.3	0.0	0.1	0.7	1.1	0.0	0.0	0.0	0.3	0.0	0.4	0.0—1.1
5	1.4	1.2	2.5	1.8	1.3	1.5	1.1	1.3	1.3	0.5	1.1	0.5—2.5
6	5.3	5.1	5.0	4.7	4.2	4.6	3.2	4.8	4.0	8.0	3.5	3.2—8.0
7	0.0	0.0	0.4	0.0	1.1	0.2	0.0	0.0	0.3	0.3	0.4	0.0—1.1
8	0.3	0.0	1.8	0.7	0.1	0.5	0.0	0.0	0.0	1.1	0.2	0.0—1.8
9	0.5	1.2	1.1	0.6	0.7	0.8	0.7	0.2	0.3	0.0	0.2	0.0—1.1
10	0.8	0.4	0.4	0.4	0.0	0.1	0.0	0.0	1.0	0.5	0.9	0.0—1.0
11	9.1	11.5	9.0	8.7	8.2	7.5	10.8	13.0	10.0	8.0	11.0	7.5—13.0
12	3.7	5.4	6.0	0.0	5.1	3.0	6.0	5.6	2.0	4.8	4.2	2.9—6.6
13	2.0	2.3	3.0	3.5	2.7	2.8	1.8	3.3	1.8	2.1	3.3	1.8—3.6
14	4.4	6.1	3.8	4.7	4.7	4.9	5.7	5.2	5.2	4.8	5.2	3.8—6.1
15	3.7	3.4	2.5	4.7	5.1	2.7	3.4	3.3	5.7	3.5	4.1	2.5—5.7
16	1.3	1.9	1.3	0.4	1.0	1.1	2.1	0.6	0.8	1.1	1.7	0.4—2.1
17	1.3	1.4	1.5	0.8	0.7	0.6	2.5	1.3	1.0	0.3	1.7	0.3—2.5
18	0.4	0.3	0.3	0.4	0.5	0.5	0.5	0.0	0.0	0.5	0.4	0.0—0.6
19	1.7	1.3	1.8	2.1	1.3	2.7	2.1	2.4	1.0	2.0	2.6	1.0—2.9
20	3.7	1.9	3.1	3.0	3.5	3.6	2.7	4.3	2.3	1.6	2.6	1.6—4.3
21	6.1	6.0	6.0	3.2	4.3	6.2	0.0	7.4	5.2	8.3	6.3	3.2—8.3
22	4.4	4.5	3.0	3.7	5.4	6.2	4.8	4.1	5.5	4.8	2.9	2.9—6.2
23	5.4	5.1	3.5	3.2	6.1	6.4	2.5	0.1	7.0	4.8	5.0	2.5—7.0
24	0.5	0.7	1.1	1.8	0.5	0.1	0.0	0.4	0.0	0.5	0.9	0.1—1.8
25	0.7	0.7	1.3	0.5	0.8	1.6	1.8	0.0	2.3	1.1	2.2	0.5—2.3
26	0.1	0.0	0.3	0.3	0.0	0.1	0.0	0.0	0.0	0.3	0.2	0.0—0.3
27	1.3	0.6	2.4	1.9	2.0	1.6	1.4	1.3	1.3	2.1	2.2	0.6—2.4
28	2.3	1.0	2.8	3.0	3.6	3.5	3.2	2.2	2.0	3.2	2.6	1.9—3.9
29	1.5	1.0	1.9	2.1	1.5	1.2	1.1	0.0	1.6	0.8	1.1	0.8—2.1
30	4.3	3.8	2.0	2.1	3.0	4.7	4.1	3.9	3.6	3.5	4.1	2.1—4.7
31	0.8	0.8	1.8	0.8	1.3	0.8	1.8	0.9	1.0	1.1	0.6	0.6—1.8
32	8.8	6.1	7.0	11.5	7.2	8.8	8.3	6.7	6.5	7.2	6.3	6.1—11.5

Occupation	Number of Cases
1. Clerks and Stenographers	150
2. Housewives	139
3. Advertising men	150
4. Artists	151
5. Salesmen	152
6. Students	186
7. Editors and Publishers	91
8. Professional	96
9. Manual workers	81
10. Teachers	75
11. Managers and Executives	113

For each of these groups the following calculations were made:

1. The number of times each advertisement was put in any one of the first five positions;
2. The percentage of the total number of votes received by each advertisement;
3. The order of value of the 32 advertisements based on the percentage of total number of votes received;
4. The relationship between the order for each occupational group and that for each other group.

Table 119 gives the percentage of the total number of votes received by each advertisement for each occupational group. The maximum percentage possible is 20 in this table. The last column in the table shows the range of percentages among the different groups.

Table 120 gives the order of value of the 32 advertisements for each of the 11 different occupations. And in the last column of the table is shown the order based upon the total of 15,000 persons' votes.

SIMILARITY IN REACTIONS OF THE OCCUPATIONAL GROUPS

There is very close agreement among the orders for the different occupational groups. The advertisements were all

typical specimens of current national advertising campaigns, some in color and some in black and white, some full-page and some smaller, some predominantly illustration and

TABLE 120
RELATIVE STANDING OF THE ADVERTISEMENTS

Advertisement Number	Clerks and Stenographers	Housewives	Advertising Men	Artists	Salesmen	Students	Editors and Publishers	Professional	Manual Workers	Teachers	Managers and Executives	Total Group
No. Cases	150	139	150	151	152	186	91	96	81	75	113	15,000
1	1.0	2.0	3.0	4.0	1.0	1.0	2.0	2.0	1.0	1.5	2.0	3.0
2	16.0	13.0	18.5	22.5	20.5	21.5	25.5	20.0	16.5	25.0	21.0	18.0
3	2.0	3.0	1.0	1.0	3.0	4.0	3.0	3.0	3.0	1.5	3.0	1.0
4	29.5	31.0	32.0	25.5	23.0	32.0	31.0	29.5	30.0	31.5	28.0	28.0
5	18.0	21.5	15.5	19.5	20.5	19.5	22.5	18.0	19.5	25.0	22.5	21.0
6	6.5	8.5	7.0	7.0	11.0	10.0	11.5	9.0	10.0	3.5	11.0	6.0
7	31.5	31.0	28.5	32.0	24.0	28.0	31.0	29.5	30.0	29.0	28.0	29.0
8	29.5	23.5	21.0	25.5	31.0	26.5	25.5	29.5	27.0	19.5	31.0	24.0
9	20.5	21.5	26.5	22.5	27.5	23.5	28.0	20.0	30.0	31.5	31.0	.....
0	23.5	28.0	28.5	29.0	25.0	30.0	25.5	29.5	22.5	25.0	24.5	26.0
11	3.0	1.0	2.0	3.0	2.0	2.0	1.0	1.0	2.0	3.5	1.0	2.0
12	12.0	7.0	5.0	5.0	7.5	11.5	6.0	7.0	12.5	8.5	8.0	9.0
13	14.0	14.0	9.5	11.0	15.0	14.0	19.0	13.0	16.5	15.5	12.0	14.0
14	8.5	4.5	8.0	7.0	9.0	8.0	7.0	8.0	8.5	8.5	6.0	7.0
15	12.0	12.0	15.5	7.0	7.5	15.5	10.0	13.5	6.0	11.5	9.5	11.0
16	22.0	16.0	24.5	29.0	17.0	19.5	16.5	23.5	25.0	19.5	19.5	.....
17	20.5	19.0	23.0	22.5	27.5	25.0	14.5	18.0	22.5	29.0	19.5	22.0
18	28.0	29.0	30.0	29.0	29.5	26.5	29.0	29.5	27.0	25.0	28.0	27.0
19	17.0	20.0	21.0	16.0	20.5	15.5	16.5	15.0	22.5	14.0	15.0	16.0
20	12.0	16.0	12.0	14.0	13.0	11.5	13.0	10.0	14.5	17.0	15.0	12.0
21	5.0	6.0	6.0	12.5	10.0	6.5	5.0	4.0	8.5	5.0	4.5	5.0
22	8.5	10.0	9.5	10.0	6.0	6.5	8.0	11.0	7.0	8.5	13.0	10.0
23	6.5	8.5	11.0	12.5	5.0	5.0	14.5	6.0	4.0	8.5	7.0	8.0
24	26.5	25.5	26.5	19.5	29.5	30.0	25.5	25.0	27.0	25.0	24.5	25.0
25	25.0	25.5	24.5	27.0	26.0	17.5	19.0	23.5	14.5	19.5	17.5	20.0
26	31.5	31.0	30.5	31.0	32.0	30.0	31.0	29.5	32.0	29.0	31.0	.....
27	20.5	27.0	17.0	18.0	16.0	17.5	21.0	18.0	19.5	15.5	17.5	17.0
28	15.0	10.0	14.0	9.0	12.0	13.0	11.5	16.0	12.5	13.0	15.0	15.0
29	19.0	18.0	18.5	16.0	18.0	21.5	22.5	21.5	18.0	22.0	22.5	19.0
30	10.0	11.0	13.0	16.0	14.0	9.0	9.0	12.0	11.0	11.5	9.5	13.0
31	23.5	23.5	21.0	22.5	20.5	23.5	19.0	21.5	22.5	19.5	26.0	23.0
32	4.0	4.5	4.0	2.0	4.0	3.0	4.0	5.0	5.0	6.0	4.5	4.0

some predominantly copy. As it is difficult to get a general impression of the degree of similarity among the orders, the coefficients of correlation have been calculated for all the combinations of two groups and these are shown in Table 121. The first vertical column gives the correlation between each occupational group and the total group of 15,000, and shows the degree to which each group taken alone resembles the total group. These coefficients range from $+.91$ to $+.97$, which indicates that the order of value obtained from any one group is extremely close to that obtained from the total group. This finding supports our contention made in Chapter V, that small samples are adequate for many advertising measurements. The lowest correlation in the whole table is $+.88$. From this table one can find the relationship between any two occupational groups. Thus, the orders for advertising men and for artists show a correlation of $+.93$, which is the same as the relationship between advertising men and housewives and advertising men and students. The average correlation between each occupational group and all of the other groups is

TABLE 121
COMPARISON OF GROUP PREFERENCES

	Total	Clerks and Stenographers	Housewives	Advertising Men	Artists	Salesmen	Students	Editors and Publishers	Professional	Manual Workers	Teachers	Managers and Executives	
No.	1	2	3	4	5	6	7	8	9	10	11	12	Average
1	...	.97	.95	.96	.92	.91	.95	.92	.97	.94	.94	.96	94.5
2	.97	...	.95	.95	.89	.93	.95	.92	.97	.95	.91	.95	93.7
3	.95	.95	...	.93	.88	.88	.91	.91	.93	.90	.86	.91	90.6
4	.96	.95	.93	...	.93	.90	.93	.90	.96	.90	.91	.90	92.1
5	.92	.89	.88	.93	...	.88	.86	.87	.92	.88	.88	.88	88.7
6	.91	.93	.88	.90	.88	...	.92	.88	.92	.92	.89	.92	90.4
7	.95	.95	.91	.93	.86	.92	...	.90	.94	.92	.92	.94	91.9
8	.92	.92	.91	.90	.87	.88	.90	...	.92	.88	.91	.94	90.3
9	.97	.97	.93	.96	.92	.92	.94	.92	...	.91	.89	.96	93.2
10	.94	.95	.90	.90	.88	.92	.92	.88	.91	...	.90	.93	90.9
11	.94	.91	.86	.91	.88	.89	.92	.91	.89	.90	...	.91	89.8
12	.96	.95	.91	.90	.88	.92	.94	.94	.96	.93	.91	...	92.4

shown in the last column of the table. These averages are also extremely high.

Returning again to Table 120 let us examine several specific advertisements. Advertisement number 3 was given first place by advertising men and artists and third place by housewives. Now this advertisement contained the finest piece of art work in the whole series. The figures suggest that the art work was rated rather more highly by the specialists than by the housewives, students, manual workers, and so forth. If we go back to the percentages from which the ranks were derived we find that 13.0% of the artists placed the advertisement first and 9.2% of the housewives placed it first.

GROUPS AGREE MOST IN JUDGMENT OF POOR ADVERTISEMENTS

If one determines the order of preference according to the votes of the 15,000 judges, as in the last column of Table 120, and then finds the range of votes for the best 5, poorest 5, and middle 5, he will see that the different groups agreed most definitely concerning the poorest adver-

TABLE 122
RELATION BETWEEN RANK AND VARIABILITY

Advertisement Number	Rank	Range in Percentage	Average Range
Best five	3	7.1—13.0	5.3
	11	7.5—13.0	
	1	7.2—11.7	
	32	6.1—11.5	
	21	3.2—8.3	
Middle five	30	2.1—4.7	2.0
	13	1.8—3.6	
	28	1.9—3.9	
	19	1.0—2.9	
	27	0.6—2.4	
	17	0.6—2.4	
Poorest five	24	0.1—1.8	1.1
	10	0.0—1.0	
	18	0.0—0.6	
	4	0.0—1.1	
	7	0.0—1.1	

tisements and disagreed most concerning the best 5. These figures are given in Table 122.

Somewhat the same sort of conclusion has been reached concerning the judgment of other kinds of material, such as letters of application, pictures, and so forth, namely, that in picking the best it is easiest to begin by eliminating the worst until the best remain.

One other question remains to be answered concerning occupational differences: If the advertisements themselves are equally effective, where shall they be put so as to be accessible to the different groups? This is only in part a psychological problem. Obviously they must be carried in a medium that will be read and comprehended by the occupational groups. Hence the intelligence of the groups, their reading habits, and their preferences are matters of importance. Intelligence differences among occupations may be studied by referring again to Chapter XIII, and especially to Figure 85, where the score in the Army Alpha Intelligence Test is given for a variety of occupations. These differences are important to the extent that they indicate the capacity to read and enjoy the contents of various mediums containing advertising, and the capacity to comprehend the advertising message. The groups having the lowest intelligence on the chart will probably be reached only by the bill-board and the subway card, while few of those occupying the middle of the chart will be reached by the so-called quality magazines. The picture newspaper,

TABLE 123
DISTRIBUTION OF MAGAZINE CIRCULATION AMONG
OCCUPATIONAL GROUPS

Groups	Percentage of Total Population	Percentage of Circulation
I—Executives, professional, and so forth	14.1	46.9
II—Clerical, and skilled workmen	42.7	42.8
III—Unskilled workmen	43.2	8.5

TABLE 124
DISTRIBUTION OF MAGAZINE CIRCULATION AMONG
OCCUPATIONAL GROUPS

Groups	Magazine	
	Number 1	Number 2
I—Executives	36.7	27.9
Professional	11.9	10.2
Merchants	12.9	15.4
Commercial travelers	5.4	7.3
Total	66.9	60.8
II—Clerical	15.1	19.5
Skilled workmen	10.2	14.4
Total	25.3	33.9
III—Unskilled workmen	0.1	0.9
Transportation employees	0.0	0.0
Teamsters, chauffeurs, and carmen	0.6	1.0
Personal and domestic service..	0.6	0.6
Dressmakers and seamstresses	0.2	1.4
Public service employees	3.9	1.3
Total	5.4	5.2
Institutions	2.4	0.1

such as the *Daily News*, doubtless is beginning to offer a new medium for the lower occupational groups.

READING HABITS OF OCCUPATIONAL GROUPS

The question of the reading habits of occupational groups can be investigated directly instead of being inferred from their capacity to read. Such studies of occupations have been made in a few instances. A survey¹ of a typical American city showed a distribution of circulation among occupational groups as indicated in Table 123.

It appears from this table that the group of executives and professional people, comprising about one-seventh of the population, receive almost half of the magazines, while

¹"A Study of Magazine Circulation in Cincinnati, Ohio," *The J. Walter Thompson News Bulletin*, 1923, No. 102.

the group of unskilled workmen, comprising nearly half of the population, receive about one-twelfth of the magazines.

Table 124 gives the distribution of circulation of two types of magazines among the occupational groups. It shows very clearly the difference in the degree to which the different groups can be reached by magazine advertising. The data do not cover newsstand circulation nor the readers of magazines in institutions. It is generally believed that the character of the newsstand circulation is quite similar to that of the subscription circulation. Whatever the nature of the "institution circulation" it is probably insignificant in amount.

The newspaper circulation in the same town is quite in contrast with the magazine circulation. Whereas magazines are purchased predominantly by Group I, newspapers are purchased uniformly through all three groups, as shown in Table 125. The figures indicate the average number of magazines or newspapers read per family in the different occupational groups.

TABLE 125

COMPARISON OF MAGAZINE AND NEWSPAPER CIRCULATION

Group	Magazines	Newspapers
I	4.81	0.99
II	1.45	0.97
III	0.28	0.95

NEWSPAPER PREFERENCES OF OCCUPATIONAL GROUPS

Certain occupational differences appear when newspaper preferences are discovered. One investigation¹ by the application of the questionnaire furnishes such data for a limited group of occupations in New York City. They are reproduced in Table 126. The figures are in terms of the percentage of a given group preferring each newspaper.

¹Hotchkiss and Franken, *Newspaper Reading Habits of Business Executives and Professional Men in New York*. New York University Bureau of Business Research.

TABLE 126

NEWSPAPER READING HABITS OF OCCUPATIONAL GROUPS

Newspapers	Business Men	Doctors	Lawyers
Morning Papers			
Times	30.09	41.67	43.10
Tribune	26.92	20.51	14.66
Herald	16.44	8.33	8.62
World	2.31	6.41	12.93
American	1.21	2.56	1.72
Journal of Commerce	1.58	....	....
Wall Street Journal	0.49	....	....
Telegraph	0.24	....	1.72
Call	0.12	1.28	....
Evening Papers			
Sun	8.53	8.33	8.62
Post	5.36	3.85	2.59
Globe	3.90	5.77	3.45
Brooklyn Eagle	0.85	....	2.59
Mail	1.10	....	....
Evening World	0.49	1.28	....
Journal	0.37	....	....

Preferences on the part of doctors, lawyers, and business men for morning or evening newspapers and for particular papers appearing either morning or evening can be found in this table. Table 43, presented in connection with our discussion of the location of the advertisement, in Chapter X, shows what account must be taken of the occupation appealed to in the location of an advertisement in a newspaper.

These facts concerning location show that the occupation of the consumer must be taken into account. But the facts of location are local and refer to specific mediums. Our earlier conclusion concerning the effectiveness of basic human appeals for all occupations and for both sexes has a universal application as long as one's audience stands well above the level of illiteracy.

SOCIAL AND FINANCIAL DIFFERENCES

The conclusion already drawn concerning age, sex, and occupational differences holds also for social and financial

differences. No matter how high the status in these respects may be, there will always be hunger and thirst, and interest in the home and family. In fact, the scope of all these interests is widened, and expression of interest in the form of purchases is not hampered by lack of funds in those groups with a high financial and social status. An investigator, conducting a research as a basis for increased advertising in a certain quality magazine, found, to his surprise, that one apparently never becomes too well-to-do to lose interest in foods, electric fixtures, household appliances, garden tools, and so forth. In short, it was found both expedient and profitable to carry in a class magazine, whose advertising had been limited previously to oriental rugs, chow dogs, and antique furniture, the same range of advertised commodities appearing in any other medium. The quality of the advertising may vary to suit the intelligence, the esthetic appreciation, and the purse of the reader, but the fundamental appeals underlying the advertising campaign may safely remain the same.

APPENDIX

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APPENDIX

PSYCHOLOGICAL METHODS

A list of the psychological methods that are applicable to advertising problems, together with the page numbers where they are described and applied.

ASSOCIATION TEST METHOD

Description	523 ff
Familiarity of trade names	523 ff

CORRELATION METHOD

Description	111 ff
Feeling-tone of type	405 ff
Group differences in reaction to advertising	603 ff

DIRECT IMPRESSION METHOD (Voting Method)

Description	121 and 362 ff
Appropriateness of color combinations	454 ff
Feeling-tone of colors	437 ff
Feeling-tone of lines	369 ff
Pleasantness of odors	123 ff
Reader interest in newspapers	248 ff

DIRECT OBSERVATION METHOD

Description	182 ff
Attention value of size, and so forth	184 ff
Magazine reading habits	247 ff

DISCRIMINATION TEST METHOD

Legibility of type	415 ff
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DISTRACTION METHOD

Strength of motives	95 ff
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HISTORICAL METHOD

Value of size of advertisements	181 ff
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ORDER OF MERIT METHOD

Description	101 ff
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Preferences for colors	440	ff
Preferences for odors	588	ff
Relative strength of appeals	86	ff
ORDER OF MERIT METHOD (Preliminary Grouping)		
Description	120	ff
Feeling-tone of type	395	ff
ORDER OF MERIT METHOD (Group Order)		
Description	118	ff
PAIRED ASSOCIATES METHOD		
Description	484 and 499	ff
PAIRED COMPARISONS METHOD		
Description	124	ff
Feeling-tone of language	470	ff
Preferences for colors	441	ff
Preferences for color combinations	449	ff
QUESTIONNAIRE METHOD		
Description	126	ff
Analysis of beliefs	556	ff
Newspaper preferences	607	ff
READING TEST METHOD		
Comprehension of advertisements	338	ff
RECALL (Pure) TEST METHOD		
Description	504	ff
Incidental memory	315	ff
Memory value of advertisements	505	ff
Memory value of mediums	507	ff
Memory value of return coupons	11	ff
RECALL (Aided) TEST METHOD		
Description	512	ff
Memory value of color	516	ff
RATING SCALE METHOD (Scale of Values Method)		
Description	114	ff
Measurement of humor	115	ff
Preferences for colors	444	ff
Strength of motives	84	ff
Trade-name confusion	311	ff

RECOGNITION METHOD

Description	509	ff
Attention value of copy	465	ff
Effects of isolation	227	ff
Effects of repetition interval	218	ff
Effect of size of advertisements	188	ff
Effect of size of advertising section	253	ff
Trade-name confusion	310	ff

TACHISTOSCOPE METHOD

Effect of size of advertisements	185	ff
Effect of repetition of advertisements	205	ff

BIBLIOGRAPHY

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Compiled by H. K. Nixon, Ph.D., department of psychology, Columbia University.

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